Transportation Impact Study

Jacoby Road Apartments

Copley Township, Ohio

Prepared By:

PRIME AE®

OCTOBER 2021

Transportation Impact Study

Jacoby Road Apartments – Copley Township

Copley Township, Summit County, Ohio

Prepared For:

Pride One Construction

October 2021

Prepared By:

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Executive Summary

PRIME AE Group (PRIME) has been retained by Pride One Construction to evaluate existing and future traffic conditions in the area surrounding a proposed residential development site along Jacoby Road in Copley Township of Summit County, Ohio. This study has been undertaken to determine how traffic generated by the new construction will impact traffic operations in the vicinity of the site and whether any roadway improvements are necessary to accommodate the site-generated traffic and the proposed access plan. This study conforms with generally accepted traffic engineering study criteria and the Summit County Access Management Manual.

Site Location, Access Plan and Study Area

The proposed site will be located on the east side of Jacoby Road between Copley Road and Wright Road. Access being proposed is limited to one full access drive along Jacoby Road, with a secondary emergency access point at the back of the site onto Sunny Acres Road. The study area consists of Jacoby Road and its intersection with Copley Road (S.R. 162), Wright Road, and Summit Road.

Existing Roadway Function and Geometrics

Jacoby Road is a two-lane, north/south route that is classified as a local road. It predominantly serves local residential traffic between Copley Road and Summit Road. The posted legal speed is 35 mph. Copley Road (S.R. 162) is a two-lane, east/west state route that is classified as a rural minor arterial road. It serves both local and commercial traffic that travels to/from Copley Township to the west and I-77 to the east. The posted legal speed is 40 mph. Wright Road is an east/west route that is classified as a local road. The posted legal speed is 45 mph. Summit Road is a northwest/southeast route that is classified as a rural minor collector. The posted legal speed is 35 mph. All routes are generally tangent in section within the study area, however there are significant rolling grades along the profile of Jacoby Road.

Proposed Development and Site Traffic Generation

The developer proposes construction of 142 multifamily residential units. Traffic anticipated to be generated by these sites has been calculated using data contained in the Institute of Transportation Engineers (ITE) manual entitled Trip Generation. Specifically, *Land Use Code (LUC) 220, Multifamily Housing (Low Rise)* was used to generate the site trips. Based on this information, the development is anticipated to generate 1,033 average weekday trips, 67 trips in the AM Peak and 80 trips in the PM Peak.

Findings

Introduction of the Site Drives and commensurate traffic will not have an adverse impact to traffic flow or capacity in the study area with the proposed site access plan. Currently, very good levels of service can be experienced during the peak hours at all intersections within the study area. Those good service levels are anticipated to continue into the 2022 and 2042 study years. No turn lanes are warranted at the proposed site drive in either direction. The sight distance analysis performed demonstrates that proper intersection sight distance will be provided in both directions.

Conclusions and Recommendations

This study was prepared to evaluate future traffic conditions within the study area assuming the proposed development is constructed. Existing and future traffic were analyzed using accepted traffic engineering practices detailed in the Summit County Access Management Manual and it has been found that traffic operations will not be substantially affected by the proposed development if it were to be constructed. Therefore, the following are PRIME's recommendation(s):

- Install a Westbound R1-1 Stop sign at the proposed site drive on Jacoby Road.
- Ensure all sight lines are clear of any obstruction when the site is developed.

Introduction

PRIME AE Group (PRIME) has been retained by Pride One Construction to evaluate existing and future traffic conditions in the area surrounding a proposed residential development site along Jacoby Road in Copley Township of Summit County, Ohio. This study has been undertaken to determine how traffic generated by the new construction will impact traffic operations in the vicinity of the site and whether any roadway improvements are necessary to accommodate the site-generated traffic and the proposed access plan. This study conforms with generally accepted traffic engineering study criteria and the Summit County Access Management Manual[1]. A Traffic Impact Questionnaire has been filed and approved by the Summit County Engineer's office.

Site Location, Access Plan and Study Area

The proposed site will be located on the east side of Jacoby Road between Copley Road and Wright Road. Access being proposed is limited to one full access drive along Jacoby Road, with a secondary emergency access point at the back of the site onto Sunny Acres Road. The study area consists of Jacoby Road and its intersection with Copley Road (S.R. 162), Wright Road, and Summit Road.

Proposed Site Development

The developer has proposed construction of a residential development with 142 dwelling units on approximately 40 acres of land. The lone full access point will function as the only point of ingress/egress for passenger cars. Appendix A contains a copy of the proposed site plan.

[1] Summit County Access Management Manual. Summit County Engineer's Office. 2015.

Existing Conditions

Understanding both the geometric and traffic characteristics of a roadway is critical to evaluating existing and future traffic operations. This section contains a discussion of existing roadway conditions and operational efficiency.

Existing Roadway Function and Geometrics

Jacoby Road is a two-lane, north/south route that is classified as a local road. It predominantly serves local residential traffic between Copley Road and Summit Road but also serves traffic to the Spring Garden Waldorf School. The posted legal speed is 35 mph. Copley Road (S.R. 162) is a two-lane, east/west state route that is classified as a rural minor arterial road. It serves both local and commercial traffic that travels to/from Copley Township to the west and I-77 to the east. The posted legal speed is 40 mph. Wright Road is an east/west route that is classified as a local road. The posted legal speed is 45 mph. Summit Road is a northwest/southeast route that is classified as a rural minor collector. The posted legal speed is 35 mph. All routes are generally tangent in section within the study area, however there are significant rolling grades along the profile of Jacoby Road. As such, a sight distance analysis will be completed at the proposed site drive to ensure proper intersection sight distance can be achieved.

Existing Traffic and Traffic Control

Recent turning movement counts were performed by PRIME via Miovision Scout data collection units at the following intersections on 9/22/21:

- Jacoby Road & Copley Road
- Jacoby Road & Wright Road
- Jacoby Road & Summit Road

These counts were collected on Wednesday, September 22nd, 2021. A Design Hourly Volume (DHV) factor was then applied to the peak hour count data based upon the functional classification, day, and month of the count. A DHV factor of 1.15 was applied to Copley Road, while a factor of 1.12 was applied to Jacoby Road, Summit Road and Wright Road. This provided the design hourly volumes to be used in the study. The intersection of Jacoby Road & Copley Road is currently controlled by a traffic signal while Jacoby Road at Wright Road and Jacoby Road at Summit Road are all-way stop controlled and two-way stop controlled respectively. Appendix B contains an Existing Conditions Diagram, the intersection turning movement counts, and the DHV factor tables.

Traffic Capacity

Capacity analysis techniques contained in The Highway Capacity Manual[2] was used to evaluate the ability of the intersections to process the traffic demand. The engineering industry uses a rating system referred to as Level of Service (LOS) to describe traffic operational efficiency. These service conditions are defined by the letters "A" through "F", with "A" being excellent traffic conditions and very little delay while "F" equates to congested, unstable traffic flow with long delay.

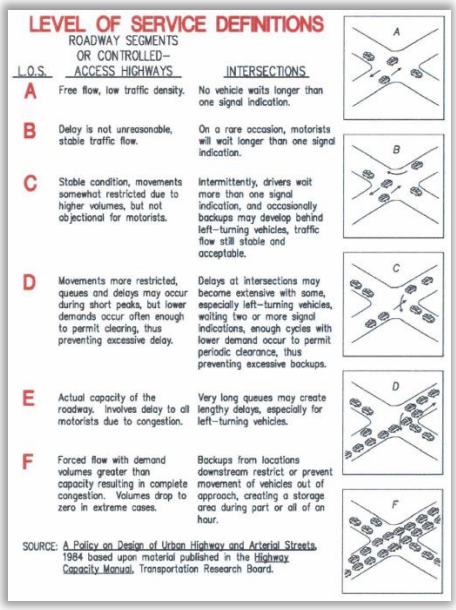


Figure 1 - Definitions of LOS.

Signalized Intersection Capacity

At signalized intersections, right-of-way to traffic is allocated by the traffic signal. Essentially, intersection capacity is measured by the number and types of lanes, and the amount of "green time" allocated to those lanes. LOS can be calculated for individual lanes, individual intersections, and the intersection as a whole. Control delay and volume-to-capacity ratios are used to establish LOS. Control delay measures the entire delay a motorist is anticipated to experience and includes slow down, stop and start up time.

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a] ≤1.0	>1.0
≤10	A	F
>10–20	B	F
>20–35	C	F
>35–55	D	F
>55–80	E	F
>80	F	F

Note: [a] For approach-based and intersectionwide assessments, LOS is defined solely by control delay.

Figure 2 - Signalized LOS vs. Control Delay.

Unsignalized Intersection Capacity

At STOP controlled intersections, drivers on the stop-controlled approaches are required to select gaps in the major-street flow to execute crossing or turning maneuvers. In the presence of a queue, each driver on the controlled approach must also spend time moving to the front-of-queue position and prepare to evaluate gaps in the major-street flow. Thus, the capacity of the controlled legs is based primarily on three factors: the distribution of gaps in the major-street traffic stream, driver judgment in selecting gaps through which to execute the desired maneuvers, and the follow-up headways required by each driver in a queue.

According to the Highway Capacity Manual, LOS for a Two-Way Stop Control (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement), as well as the major-street left turns, by using the criteria given below. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay for all vehicles; and (c) the resulting low delay can mask LOS deficiencies for minor movements.

Control Delay (s/veh)	LOS by Volume-to Capacity Ratio v/c ≤ 1.0	v/c > 1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

Note: The LOS Criteriaapply to each lane on a give approach annd to each approach on the minor street LOS is not calculated for major street approaches or for the itersection as a qhole.

Figure 3 - Unsignalized LOS vs. Control Delay

[2] Highway Capacity Manual, 6th Edition, The national Academy of Sciences, Transportation Research Board, 2016

Existing Conditions Capacity Analysis

Capacity analysis was performed for the study area intersections under the existing geometric and traffic conditions. The following table demonstrates the corresponding level of service based on intersection and study period.

Table 1 - Existing Conditions Capacity Analysis Results.

Intersection & Traffic Control		Approach	AM Peak 2021		PM Peak 2021	
			LOS	Delay (sec.)	LOS	Delay (sec.)
NO BUILD SCENARIO						
Signalized	**Jacoby Rd & Copley Rd**	*Eastbound*	A	8.0	A	8.1
		Westbound	A	8.2	A	9.1
		Northbound	B	13.2	B	12.8
		Southbound	B	14.2	B	14.8
		TOTAL	***B***	***10.5***	***B***	***10.7***
AWSC	**Jacoby Rd & Wright Rd**	*Northbound*	A	7.4	A	7.4
		Southbound	A	7.5	A	7.7
		Westbound	A	7.0	A	7.4
		TOTAL	***A***	***7.4***	***A***	***7.5***
TWSC	**Jacoby Rd & Summit Rd**	*Southbound*	A	9.9	B	10.5
	Unnacceptable	TWSC = Two-way stop controlled				
	Failing	AWSC= All-way stop controlled				

As indicated above, all intersections within the study area appear to be operating efficiently with very little delay. Appendix C contains a compilation of the HCS reports detailing the existing conditions capacity analysis at each intersection for each scenario.

Anticipated Future Traffic Conditions

An evaluation of anticipated traffic conditions within the study area requires an estimation of future site-generated traffic volumes which are then superimposed onto projected local traffic volumes. These combined traffic volumes are used to test the adequacy of the access plan and roadways within the study area. This chapter summarizes and presents the methodologies used to determine the anticipated traffic volumes associated with the proposed development. This study is focused on an Opening Year (2022) and a 20-year (2042) study scenario.

Projected Local Traffic

It is commonly appropriate to project existing traffic into a design year prior to adding site-generated traffic to account for normal regional growth. PRIME contacted the Akron Metropolitan Areawide Transportation Study (AMATS) for anticipated growth rates based on their regional traffic model. Virtually zero growth is expected within the study area, so a conservative growth rate of 0.25% per year was used for all roads. An email exchange with AMATS regarding the growth rate for this study can be found in Appendix D.

Site Traffic Generation

The developer proposes construction of 142 multifamily residential units. Traffic anticipated to be generated by these sites has been calculated using data contained in the Institute of Transportation Engineers (ITE) manual entitled Trip Generation[3]. Specifically, *Land Use Code (LUC) 220, Multifamily Housing (Low Rise)* was used to generate the site trips. See the Table 2 for a breakdown of the trip generation. Appendix D also contains the Trip Generation worksheets and relevant data.

[3] "Trip Generation Manual, 10th Edition", Institute of Transportation Engineers, 2017.

Table 2 - Trip Generation Summary

Trip Description	Weekday	AM Peak		PM Peak	
		Enter	Exit	Enter	Exit
Primary Trips	1033	15	52	50	30

Anticipated Site Traffic Distribution

Once trip generation is established, it is necessary to assign those new trips to the adjacent roadway network. The traffic distribution pattern presents, in percentage form, this trip assignment. A variety of procedures can be used to establish this pattern depending on the type and size of development. For residential developments such as these, trip assignment can typically be established by analyzing existing traffic flow within and around the study area, as well as locations of population centers, retail/commercial districts, and highway access. Based on that criteria, PRIME assumed that 80% of the site trips will travel to/from the north via Jacoby Road with the remaining 20% heading to/from the south on Jacoby Road. A *Streetlight* analysis was completed that further verified this heavy northern skew. With the trip generation and distribution established, site trips could be allocated to the roadway network within the study area based on the distribution. Diagrams of the distribution pattern and site trip patterns based on peak hour are provided in Appendix E.

2022 Opening and 2042 Horizon Year Traffic

With the trip generation and distribution established, site trips could be allocated to the roadway network within the study area based on the distribution. Those future site-generated traffic volumes then were superimposed upon projected local traffic for the four Build traffic scenarios seen below. Diagrams of the distribution pattern, site trip patterns, and opening/design year no build and build traffic volumes are also provided in Appendix E.

- 2022 Opening Year AM Peak
- 2022 Opening Year PM Peak
- 2042 Horizon Year AM Peak
- 2042 Horizon Year PM Peak

Future Conditions Capacity Analysis

Capacity analysis was then performed for the study area intersections during the study periods assuming the development were constructed. The results of the future conditions analysis are provided in Figure 4 in conjunction with the existing conditions and No Build analyses. No Build and Build conditions were analyzed assuming the following criteria:

- Signal timing parameters obtained at Copley Road and Jacoby Road listed in table 3:

Table 3 - Existing Signal Timing Data.

Timing Parameter	Phase - Movement					
	1 – EB/WB	2 – NB/SB	4 –	5 –	6 –	8 –
Min. Green	20	12	-	-	-	-
Yellow Change	4.5	4.1	-	-	-	-
Red Clear	2.0	2.0	-	-	-	-
Max. Green	40	30	-	-	-	-

Table 4 - Level of Service Summary Table.

Intersection & Traffic Control		Approach	AM Peak						PM Peak					
			2021		2022		2042		2021		2022		2042	
			LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)
NO BUILD SCENARIO														
Signalized	**Jacoby Rd & Copley Rd**	*Eastbound*	A	8.0	A	8.0	A	8.1	A	8.1	A	8.1	A	8.2
		Westbound	A	8.2	A	8.2	A	8.3	A	9.1	A	9.1	A	9.4
		Northbound	B	13.2	B	13.3	B	13.3	B	12.8	B	12.8	B	12.8
		Southbound	B	14.2	B	14.2	B	14.2	B	14.8	B	14.9	B	15.1
		TOTAL	***B***	***10.5***	***B***	***10.5***	***B***	***10.5***	***B***	***10.7***	***B***	***10.8***	***B***	***10.9***
AWSC	**Jacoby Rd & Wright Rd**	*Northbound*	A	7.4	A	7.4	A	7.5	A	7.4	*A*	*7.4*	*A*	*7.5*
		Southbound	A	7.5	A	7.5	A	7.5	A	7.7	A	7.7	A	7.8
		Westbound	A	7.0	A	7.1	A	7.1	A	7.4	A	7.3	A	7.5
		TOTAL	***A***	***7.4***	***A***	***7.4***	***A***	***7.4***	***A***	***7.5***	***A***	***7.5***	***A***	***7.6***
TWSC	**Jacoby Rd & Summit Rd**	*Southbound*	A	9.9	B	10.0	B	10.1	B	10.5	B	10.4	B	10.7
BUILD SCENARIO 1														
Signalized	**Jacoby Rd & Copley Rd**	*Eastbound*	-	-	A	8.1	A	8.1	-	-	A	8.2	A	8.3
		Westbound	-	-	A	8.3	A	8.3	-	-	A	9.2	A	9.5
		Northbound	-	-	B	13.7	B	13.8	-	-	B	13.1	B	13.1
		Southbound	-	-	B	14.3	B	14.3	-	-	B	15.2	B	15.3
		TOTAL	***-***	***-***	***B***	***10.7***	***B***	***10.8***	***-***	***-***	***B***	***11.0***	***B***	***11.1***
AWSC	**Jacoby Rd & Wright Rd**	*Northbound*	-	-	A	7.4	A	7.5	-	-	A	7.5	A	7.5
		Southbound	-	-	A	7.6	A	7.6	-	-	A	7.7	A	7.8
		Westbound	-	-	A	7.1	A	7.1	-	-	A	7.3	A	7.5
		TOTAL	***-***	***-***	***A***	***7.4***	***A***	***7.5***	***-***	***-***	***A***	***7.6***	***A***	***7.8***
TWSC	**Jacoby Rd & Summit Rd**	*Southbound*	-	-	B	10.1	B	10.2	-	-	B	10.5	B	10.8
TWSC	**Jacoby Rd & Site Dr**	*Westbound*	-	-	A	9.2	A	9.3	-	-	A	9.2	A	9.2
	Unnacceptable	TWSC = Two-way stop controlled												
	Failing	AWSC= All-way stop controlled												

As indicated in Table 4, the introduction of the Site Drive and commensurate traffic will not have an adverse impact to traffic flow or capacity in the study area with the proposed site access plan. Currently, very good levels of service can be experienced during the peak hours at all intersections within the vicinity of the site. Those good service levels are anticipated to continue into the 2022 and 2042 study years. Appendix F contains all HCS reports detailing the future conditions capacity analysis for each intersection and scenario.

Analysis of Turn Lane Requirements

The need for auxiliary lanes at unsignalized intersections is not based on capacity as much as it is based upon the number or percentage of turning vehicles relative to the advancing and opposing traffic volumes. ODOT provides design guidelines in the form of charts contained in the Location and Design (L&D) Manual, Vol. 1.[4] Those charts were used to evaluate the need for left and right turn lanes at the proposed site drive on Jacoby Road. Charts were analyzed under the existing conditions AM and PM Peak as well as the 2022 and 2042 AM and PM Peak opening and design year scenarios. Those analyses indicate that neither a northbound left turn nor a southbound right turn lane are warranted under any scenario. These worksheets are provided in Appendix G.

Analysis of Sight Distance

An evaluation was performed to check the adequacy of the sight distances for the proposed westbound site drive approach onto Jacoby Road. ODOT L&D Section 200, specifically Figure 201-5, establishes the necessary criteria for the appropriate Intersection Sight Distance (ISD) based on the design speed. Given that the posted speed on Jacoby Road is 35 mph, a 40 mph was used to assume the following criteria:

- ISD for passenger cars completing a LEFT turn = 445 feet, and,
- ISD for passenger cars completing a RIGHT turn = 385 feet.

Based on these requirements, it was determined that both criteria are satisfied. See Appendix H for a sight distance diagram depicting the results.

[4] ODOT Location and Design Manual, Volume 1 – Office of Roadway Design. 2021.

Conclusions and Recommendations

This study was prepared to evaluate future traffic conditions within the study area assuming the proposed development is constructed. Existing and future traffic were analyzed using accepted traffic engineering practices detailed in the Summit County Access Management Manual and it has been found that traffic operations will not be substantially affected by the proposed development if it were to be constructed. It has also been determined that adequate intersection sight distance can be provided at the proposed sight drive location. The following are PRIME's recommendation(s):

- Install a Westbound R1-1 Stop sign at the proposed site drive on Jacoby Road.
- Ensure all sight lines are clear of any obstruction when the site is developed.

APPENDIX A
SITE DEVELOPMENT PLAN

GENERAL SUMMARY

SITE LOCATION: JACOBY ROAD
COPLEY, OH 44321

PARCEL ID: 1501734, 1501735, 1503826

ZONING : **R-MD RESIDENTIAL MEDIUM DENSITY** [CURRENT]
R-CD CONSERVATION DEVELOPMENT RESIDENTIAL DISTRICT [PROPOSED]

SETBACKS: **60 FT** [FRONT YARD FROM R/W]
50 FT [REAR YARD]
20 FT [SIDE YARD]

PROPERTY: **63.18 AC.**

PROPOSED: BUILDINGS:
- **SANIBEL**
- **CANTERBURY/WINDSOR**
- **HAVANA**

UNITS/STYLE:

46	SANIBEL
66	WINDSOR/CANTERBURY
30	HAVANA
142	**TOTAL UNITS**

DENSITY: **2.24** **UNITS/ACRE** [OVERALL]
TBD **UNITS/ACRE** [ALLOWABLE]

OPEN SPACE: **40.46 AC.** (64.04%)

PAVEMENT: **84,375 SF**
3,192 LF

0 50 100 200
1 inch = 100 feet

PREPARED BY:
PRIDEONE CONSTRUCTION
2211 MEDINA ROAD, STE #100, MEDINA, OH 44256
WWW.PRIDEONE.CC P: (330) 239-6100

REVISIONS

NO.	DESCRIPTION	DATE

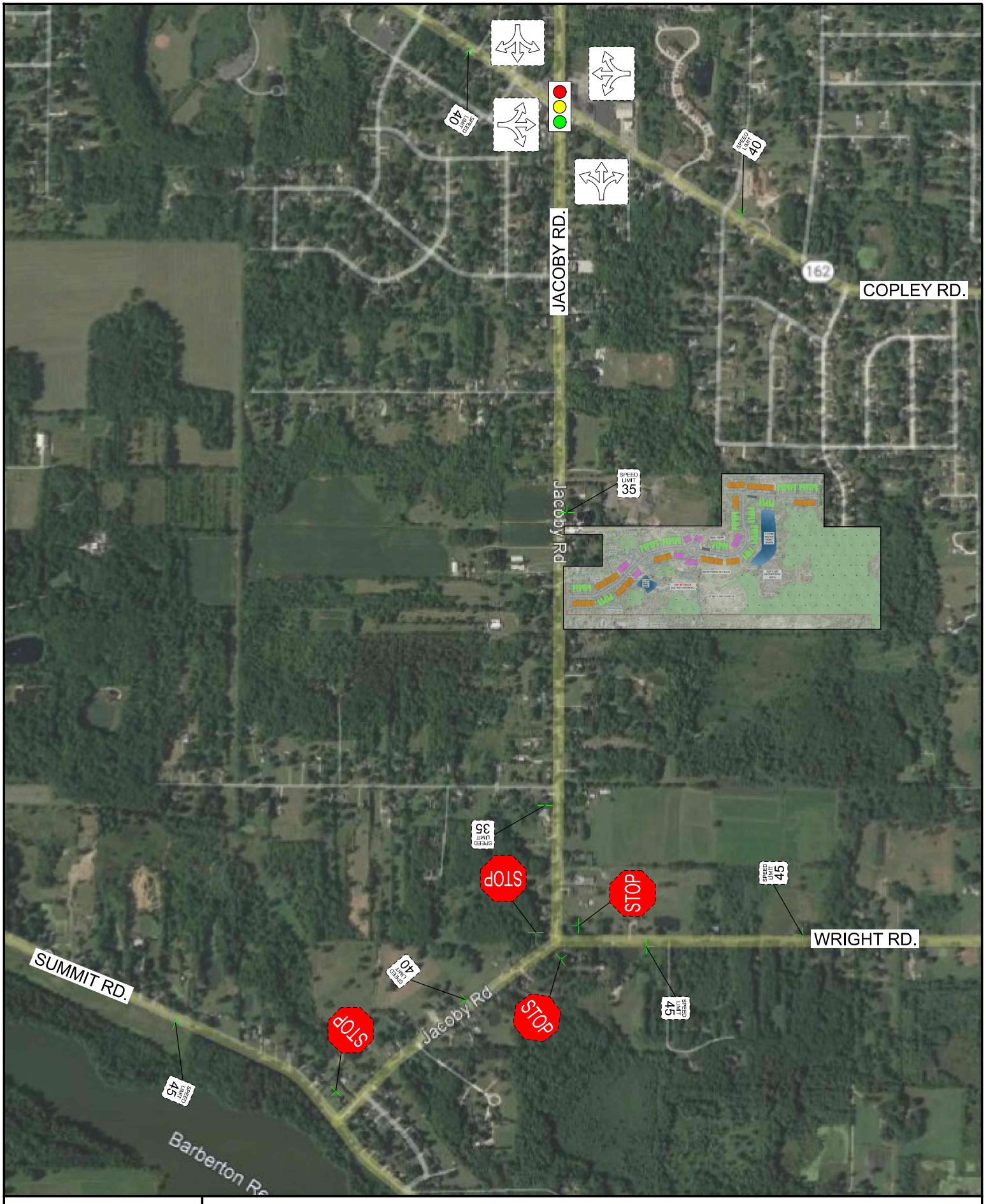
SHEET NAME:
CONCEPT PLAN
PRIDE ONE DEVELOPMENT
JACOBY ROAD
COPLEY, OH 44321

DATE: 8/18/2021

DRAWN BY: BAW

SHEET: 1 / 1
CONCEPT SITE PLAN

APPENDIX B
EXISTING CONDITIONS EXHIBIT, TRAFFIC COUNT DATA & DHV FACTORS



PRIME AE®

EXISTING CONDITIONS EXHIBIT
JACOBY RD APARTMENTS

Jacoby Rd & Copley Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

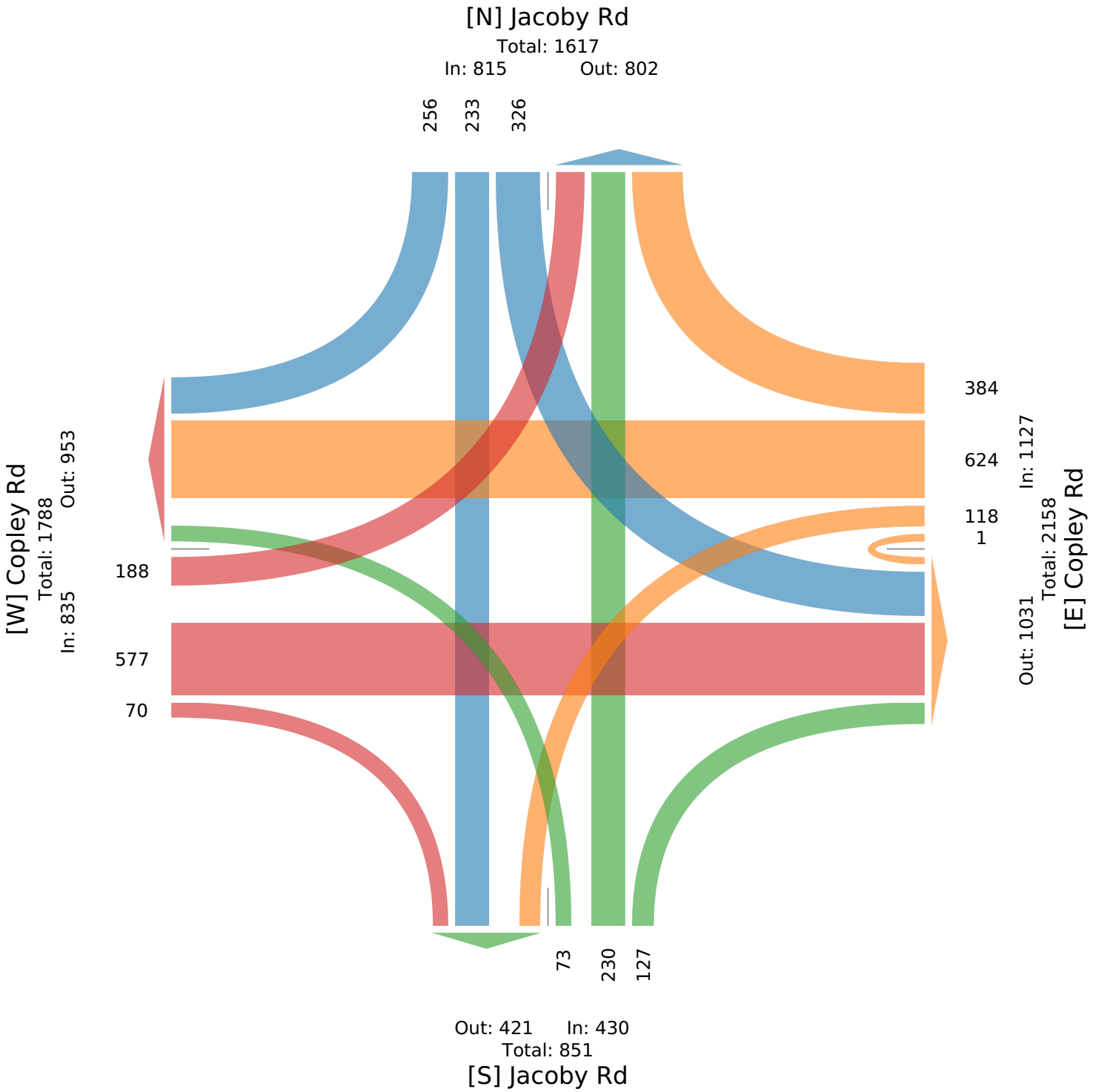
Wed Sep 22, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Leg	Jacoby Rd					Copley Rd					Jacoby Rd					Copley Rd					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2021-09-22 7:00AM	11	10	3	0	**24**	4	21	24	0	**49**	1	12	1	0	**14**	7	24	2	0	**33**	**120**
7:15AM	19	7	9	0	**35**	3	26	18	0	**47**	3	16	6	0	**25**	4	25	4	0	**33**	**140**
7:30AM	20	11	16	0	**47**	3	30	14	0	**47**	1	11	10	0	**22**	9	42	1	0	**52**	**168**
7:45AM	21	5	34	0	**60**	2	42	19	0	**63**	9	14	7	0	**30**	14	46	3	0	**63**	**216**
Hourly Total	71	33	62	0	**166**	12	119	75	0	**206**	14	53	24	0	**91**	34	137	10	0	**181**	**644**
8:00AM	13	12	22	0	**47**	19	33	13	0	**65**	5	9	3	0	**17**	16	41	8	0	**65**	**194**
8:15AM	17	15	16	0	**48**	21	29	19	0	**69**	8	23	33	0	**64**	10	25	7	0	**42**	**223**
8:30AM	12	5	17	0	**34**	6	37	20	0	**63**	8	21	14	0	**43**	9	33	2	0	**44**	**184**
8:45AM	14	9	13	0	**36**	5	37	14	0	**56**	4	15	9	0	**28**	17	25	3	0	**45**	**165**
Hourly Total	56	41	68	0	**165**	51	136	66	0	**253**	25	68	59	0	**152**	52	124	20	0	**196**	**766**
9:00AM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
4:00PM	27	15	8	0	**50**	5	47	25	0	**77**	1	18	9	0	**28**	11	58	5	0	**74**	**229**
4:15PM	23	18	18	0	**59**	7	47	28	0	**82**	4	8	4	0	**16**	8	35	5	0	**48**	**205**
4:30PM	30	26	20	0	**76**	10	60	29	0	**99**	8	15	8	0	**31**	19	32	10	0	**61**	**267**
4:45PM	19	15	13	0	**47**	4	51	35	1	**91**	1	13	2	0	**16**	17	40	5	0	**62**	**216**
Hourly Total	99	74	59	0	**232**	26	205	117	1	**349**	14	54	23	0	**91**	55	165	25	0	**245**	**917**
5:00PM	23	24	18	0	**65**	7	40	32	0	**79**	5	13	8	0	**26**	11	48	5	0	**64**	**234**
5:15PM	32	25	15	0	**72**	7	47	34	0	**88**	5	14	4	0	**23**	9	35	2	0	**46**	**229**
5:30PM	23	13	11	0	**47**	4	34	31	0	**69**	8	14	4	0	**26**	13	39	2	0	**54**	**196**
5:45PM	22	23	23	0	**68**	11	43	29	0	**83**	2	14	5	0	**21**	14	29	6	0	**49**	**221**
Hourly Total	100	85	67	0	**252**	29	164	126	0	**319**	20	55	21	0	**96**	47	151	15	0	**213**	**880**
6:00PM	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Hourly Total	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	**0**
Total	326	233	256	0	**815**	118	624	384	1	**1127**	73	230	127	0	**430**	188	577	70	0	**835**	**3207**
% Approach	40.0%	28.6%	31.4%	0%	**-**	10.5%	55.4%	34.1%	0.1%	**-**	17.0%	53.5%	29.5%	0%	**-**	22.5%	69.1%	8.4%	0%	**-**	-
% Total	10.2%	7.3%	8.0%	0%	**25.4%**	3.7%	19.5%	12.0%	0%	**35.1%**	2.3%	7.2%	4.0%	0%	**13.4%**	5.9%	18.0%	2.2%	0%	**26.0%**	-
Lights	324	228	236	0	**788**	116	609	379	1	**1105**	68	228	124	0	**420**	179	563	65	0	**807**	3120
% Lights	99.4%	97.9%	92.2%	0%	**96.7%**	98.3%	97.6%	98.7%	100%	**98.0%**	93.2%	99.1%	97.6%	0%	**97.7%**	95.2%	97.6%	92.9%	0%	**96.6%**	97.3%
Articulated Trucks	0	1	0	0	**1**	0	2	0	0	**2**	0	0	2	0	**2**	1	0	0	0	**1**	6
% Articulated Trucks	0%	0.4%	0%	0%	**0.1%**	0%	0.3%	0%	0%	**0.2%**	0%	0%	1.6%	0%	**0.5%**	0.5%	0%	0%	0%	**0.1%**	0.2%
Buses and Single-Unit Trucks	2	4	20	0	**26**	2	13	5	0	**20**	5	2	1	0	**8**	8	14	5	0	**27**	81
% Buses and Single-Unit Trucks	0.6%	1.7%	7.8%	0%	**3.2%**	1.7%	2.1%	1.3%	0%	**1.8%**	6.8%	0.9%	0.8%	0%	**1.9%**	4.3%	2.4%	7.1%	0%	**3.2%**	2.5%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Copley Rd - TMC
Wed Sep 22, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Copley Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

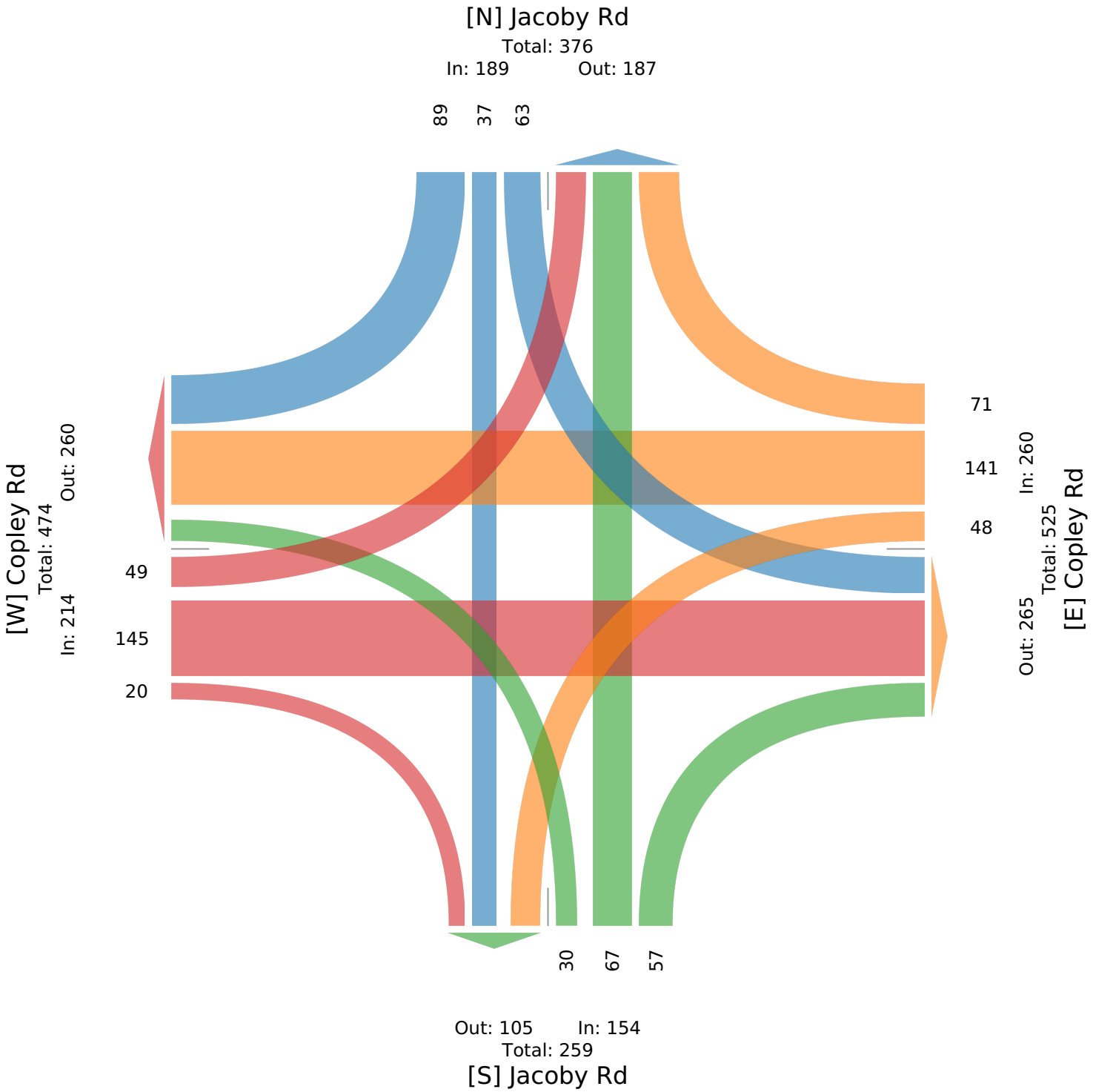
Wed Sep 22, 2021
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Leg	Jacoby Rd					Copley Rd					Jacoby Rd					Copley Rd					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2021-09-22 7:45AM	21	5	34	0	**60**	2	42	19	0	**63**	9	14	7	0	**30**	14	46	3	0	**63**	**216**
8:00AM	13	12	22	0	**47**	19	33	13	0	**65**	5	9	3	0	**17**	16	41	8	0	**65**	**194**
8:15AM	17	15	16	0	**48**	21	29	19	0	**69**	8	23	33	0	**64**	10	25	7	0	**42**	**223**
8:30AM	12	5	17	0	**34**	6	37	20	0	**63**	8	21	14	0	**43**	9	33	2	0	**44**	**184**
Total	63	37	89	0	**189**	48	141	71	0	**260**	30	67	57	0	**154**	49	145	20	0	**214**	**817**
% Approach	33.3%	19.6%	47.1%	0%	**-**	18.5%	54.2%	27.3%	0%	**-**	19.5%	43.5%	37.0%	0%	**-**	22.9%	67.8%	9.3%	0%	**-**	-
% Total	7.7%	4.5%	10.9%	0%	**23.1%**	5.9%	17.3%	8.7%	0%	**31.8%**	3.7%	8.2%	7.0%	0%	**18.8%**	6.0%	17.7%	2.4%	0%	**26.2%**	-
PHF	0.750	0.617	0.654	-	**0.788**	0.571	0.839	0.888	-	**0.942**	0.833	0.728	0.432	-	**0.602**	0.766	0.788	0.625	-	**0.823**	0.916
Lights	62	36	79	0	**177**	47	134	68	0	**249**	28	66	56	0	**150**	42	140	17	0	**199**	775
% Lights	98.4%	97.3%	88.8%	0%	**93.7%**	97.9%	95.0%	95.8%	0%	**95.8%**	93.3%	98.5%	98.2%	0%	**97.4%**	85.7%	96.6%	85.0%	0%	**93.0%**	94.9%
Articulated Trucks	0	0	0	0	**0**	0	1	0	0	**1**	0	0	1	0	**1**	1	0	0	0	**1**	3
% Articulated Trucks	0%	0%	0%	0%	**0%**	0%	0.7%	0%	0%	**0.4%**	0%	0%	1.8%	0%	**0.6%**	2.0%	0%	0%	0%	**0.5%**	0.4%
Buses and Single-Unit Trucks	1	1	10	0	**12**	1	6	3	0	**10**	2	1	0	0	**3**	6	5	3	0	**14**	39
% Buses and Single-Unit Trucks	1.6%	2.7%	11.2%	0%	**6.3%**	2.1%	4.3%	4.2%	0%	**3.8%**	6.7%	1.5%	0%	0%	**1.9%**	12.2%	3.4%	15.0%	0%	**6.5%**	4.8%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Copley Rd - TMC
Wed Sep 22, 2021
AM Peak (7:45 AM - 8:45 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Copley Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

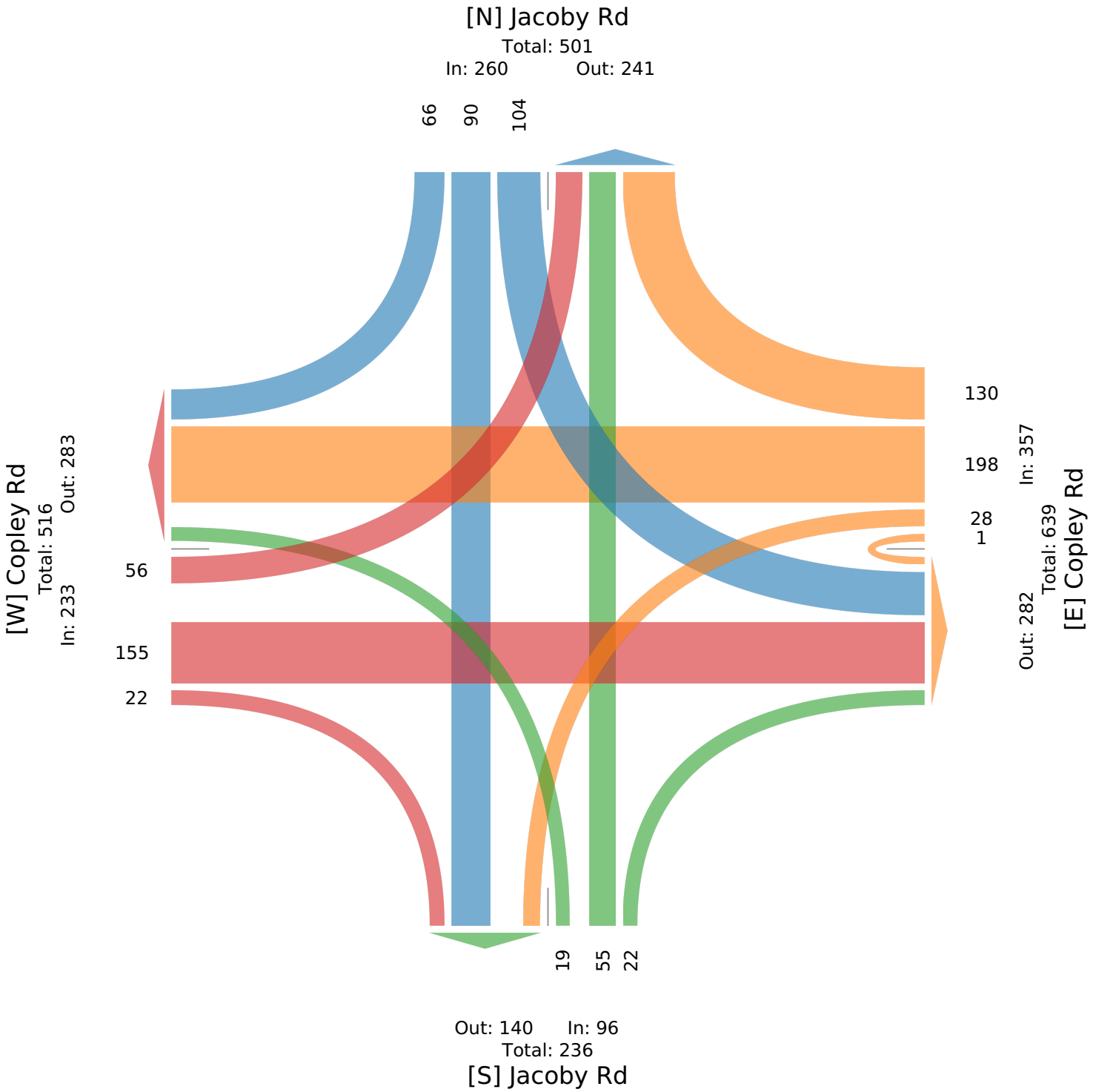
Wed Sep 22, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Leg	Jacoby Rd					Copley Rd					Jacoby Rd					Copley Rd					
Direction	Southbound					Westbound					Northbound					Eastbound					
Time	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	L	T	R	U	**App**	**Int**
2021-09-22 4:30PM	30	26	20	0	**76**	10	60	29	0	**99**	8	15	8	0	**31**	19	32	10	0	**61**	**267**
4:45PM	19	15	13	0	**47**	4	51	35	1	**91**	1	13	2	0	**16**	17	40	5	0	**62**	**216**
5:00PM	23	24	18	0	**65**	7	40	32	0	**79**	5	13	8	0	**26**	11	48	5	0	**64**	**234**
5:15PM	32	25	15	0	**72**	7	47	34	0	**88**	5	14	4	0	**23**	9	35	2	0	**46**	**229**
Total	104	90	66	0	**260**	28	198	130	1	**357**	19	55	22	0	**96**	56	155	22	0	**233**	**946**
% Approach	40.0%	34.6%	25.4%	0%	**-**	7.8%	55.5%	36.4%	0.3%	**-**	19.8%	57.3%	22.9%	0%	**-**	24.0%	66.5%	9.4%	0%	**-**	-
% Total	11.0%	9.5%	7.0%	0%	**27.5%**	3.0%	20.9%	13.7%	0.1%	**37.7%**	2.0%	5.8%	2.3%	0%	**10.1%**	5.9%	16.4%	2.3%	0%	**24.6%**	-
PHF	0.813	0.865	0.825	-	**0.855**	0.700	0.825	0.929	0.250	**0.902**	0.594	0.917	0.688	-	**0.774**	0.737	0.807	0.550	-	**0.910**	0.886
Lights	104	88	60	0	**252**	28	194	130	1	**353**	18	55	22	0	**95**	56	154	21	0	**231**	931
% Lights	100%	97.8%	90.9%	0%	**96.9%**	100%	98.0%	100%	100%	**98.9%**	94.7%	100%	100%	0%	**99.0%**	100%	99.4%	95.5%	0%	**99.1%**	98.4%
Articulated Trucks	0	1	0	0	**1**	0	1	0	0	**1**	0	0	0	0	**0**	0	0	0	0	**0**	2
% Articulated Trucks	0%	1.1%	0%	0%	**0.4%**	0%	0.5%	0%	0%	**0.3%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0.2%
Buses and Single-Unit Trucks	0	1	6	0	**7**	0	3	0	0	**3**	1	0	0	0	**1**	0	1	1	0	**2**	13
% Buses and Single-Unit Trucks	0%	1.1%	9.1%	0%	**2.7%**	0%	1.5%	0%	0%	**0.8%**	5.3%	0%	0%	0%	**1.0%**	0%	0.6%	4.5%	0%	**0.9%**	1.4%

*L: Left, R: Right, T: Thru, U: U-Turn

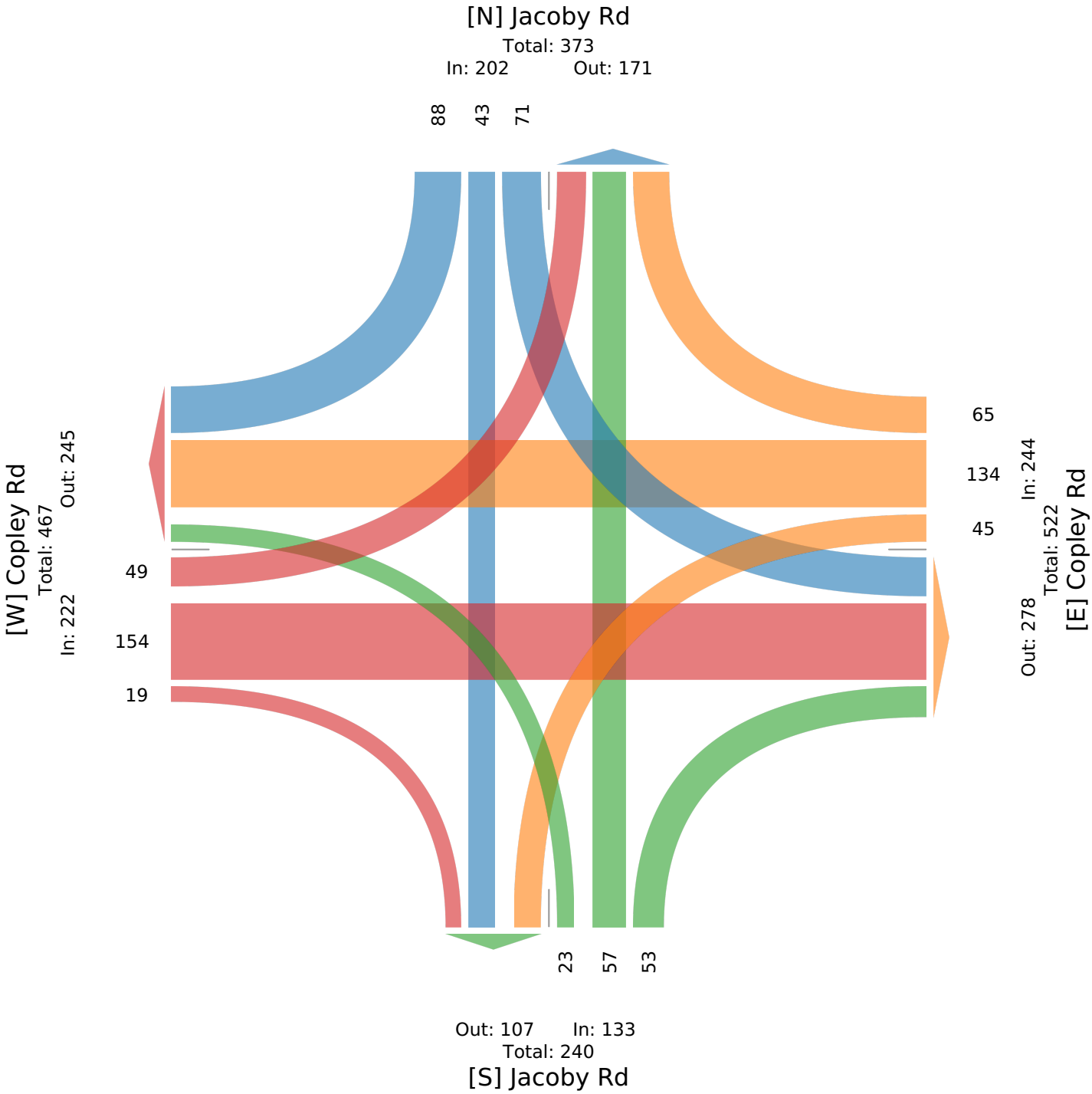
Jacoby Rd & Copley Rd - TMC
Wed Sep 22, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



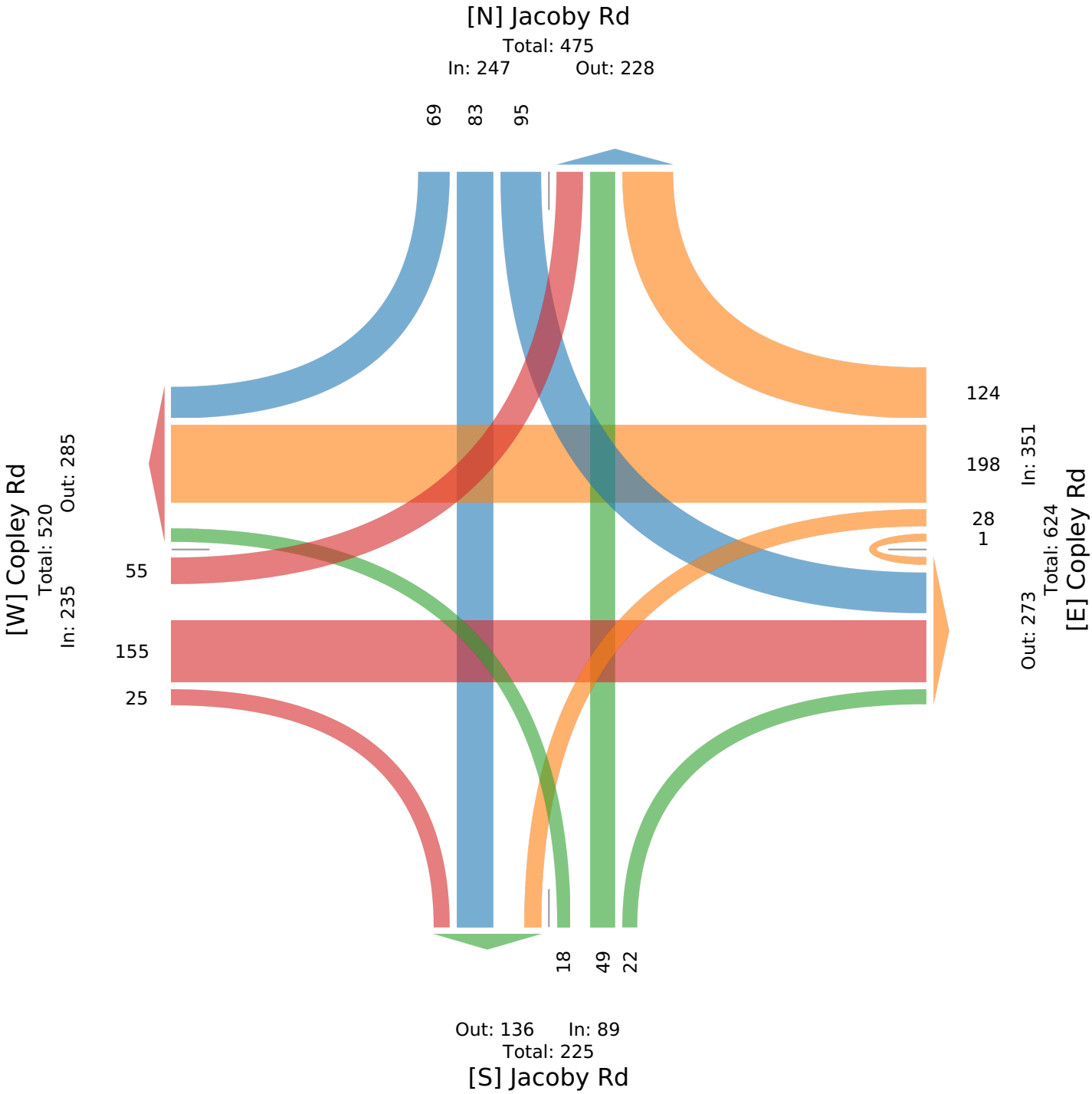
Jacoby Rd & Copley Rd - TMC
Wed Sep 22, 2021
7:30 AM - 8:30 AM
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Copley Rd - TMC
Wed Sep 22, 2021
4:15 PM - 5:15 PM
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876464, Location: 41.093374, -81.61944

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Wright Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

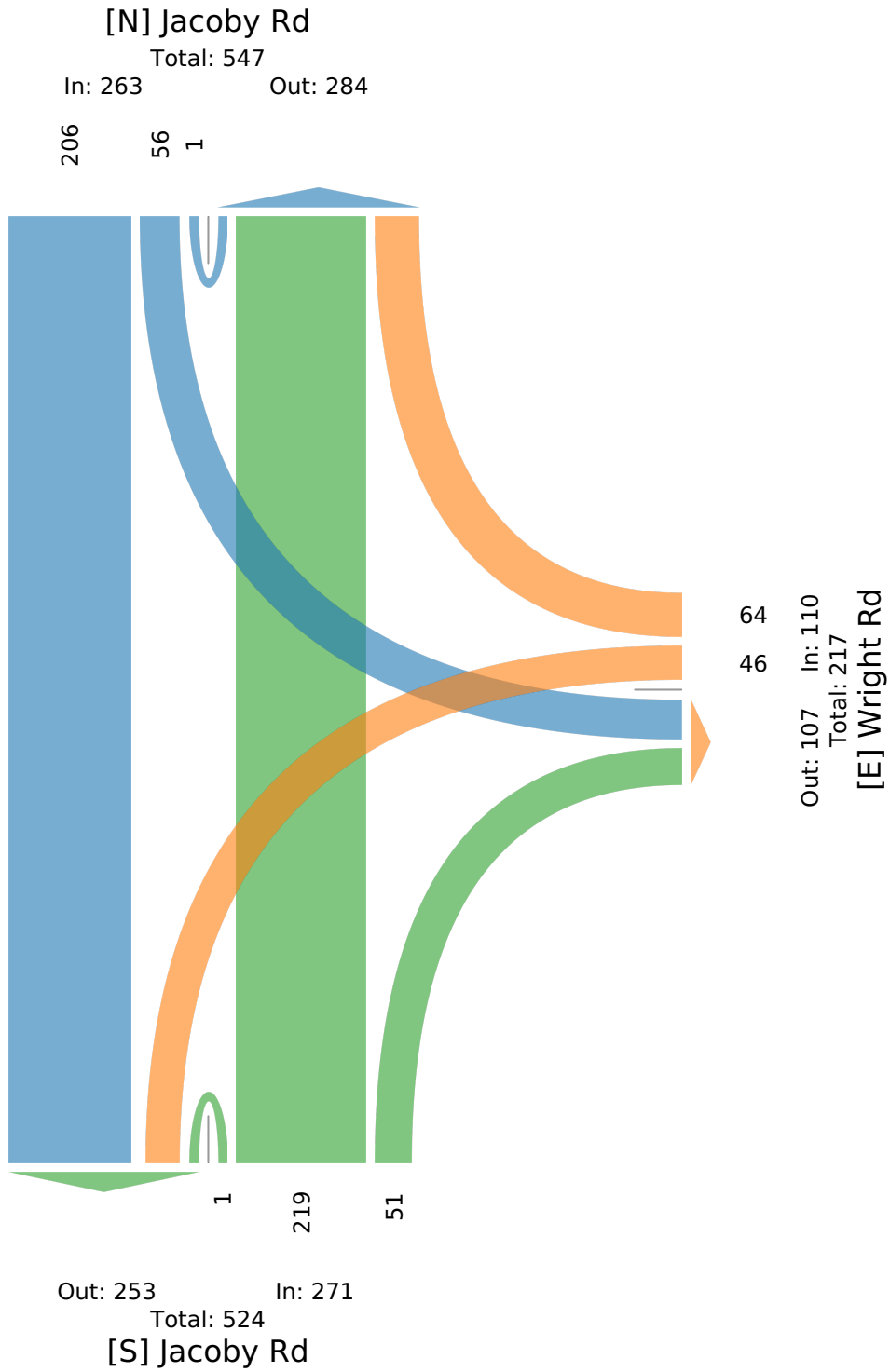
Wed Sep 22, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876478, Location: 41.073573, -81.619592

Leg	Jacoby Rd				Wright Rd				Jacoby Rd				
Direction	Southbound				Westbound				Northbound				
Time	L	T	U	**App**	L	R	U	**App**	T	R	U	**App**	**Int**
2021-09-22 7:00AM	4	10	1	**15**	3	5	0	**8**	3	4	0	**7**	**30**
7:15AM	2	8	0	**10**	1	0	0	**1**	14	1	0	**15**	**26**
7:30AM	2	14	0	**16**	1	3	0	**4**	16	10	0	**26**	**46**
7:45AM	2	4	0	**6**	3	3	0	**6**	20	5	0	**25**	**37**
Hourly Total	10	36	1	**47**	8	11	0	**19**	53	20	0	**73**	**139**
8:00AM	5	8	0	**13**	2	7	0	**9**	11	1	0	**12**	**34**
8:15AM	7	11	0	**18**	1	8	0	**9**	19	3	0	**22**	**49**
8:30AM	2	11	0	**13**	4	4	0	**8**	10	4	0	**14**	**35**
8:45AM	3	16	0	**19**	1	6	0	**7**	11	2	0	**13**	**39**
Hourly Total	17	46	0	**63**	8	25	0	**33**	51	10	0	**61**	**157**
9:00AM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
4:00PM	5	11	0	**16**	6	0	0	**6**	20	2	0	**22**	**44**
4:15PM	5	16	0	**21**	8	4	0	**12**	14	1	0	**15**	**48**
4:30PM	3	15	0	**18**	3	2	0	**5**	13	3	0	**16**	**39**
4:45PM	4	13	0	**17**	6	7	0	**13**	9	3	0	**12**	**42**
Hourly Total	17	55	0	**72**	23	13	0	**36**	56	9	0	**65**	**173**
5:00PM	5	21	0	**26**	4	5	0	**9**	13	3	1	**17**	**52**
5:15PM	2	21	0	**23**	2	6	0	**8**	14	1	0	**15**	**46**
5:30PM	3	14	0	**17**	1	3	0	**4**	13	4	0	**17**	**38**
5:45PM	2	13	0	**15**	0	1	0	**1**	19	4	0	**23**	**39**
Hourly Total	12	69	0	**81**	7	15	0	**22**	59	12	1	**72**	**175**
6:00PM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	56	206	1	**263**	46	64	0	**110**	219	51	1	**271**	**644**
% Approach	21.3%	78.3%	0.4%	**-**	41.8%	58.2%	0%	**-**	80.8%	18.8%	0.4%	**-**	-
% Total	8.7%	32.0%	0.2%	**40.8%**	7.1%	9.9%	0%	**17.1%**	34.0%	7.9%	0.2%	**42.1%**	-
Lights	53	202	0	**255**	44	56	0	**100**	214	49	1	**264**	619
% Lights	94.6%	98.1%	0%	**97.0%**	95.7%	87.5%	0%	**90.9%**	97.7%	96.1%	100%	**97.4%**	96.1%
Articulated Trucks	0	0	0	**0**	0	1	0	**1**	2	0	0	**2**	3
% Articulated Trucks	0%	0%	0%	**0%**	0%	1.6%	0%	**0.9%**	0.9%	0%	0%	**0.7%**	0.5%
Buses and Single-Unit Trucks	3	4	1	**8**	2	7	0	**9**	3	2	0	**5**	22
% Buses and Single-Unit Trucks	5.4%	1.9%	100%	**3.0%**	4.3%	10.9%	0%	**8.2%**	1.4%	3.9%	0%	**1.8%**	3.4%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Wright Rd - TMC
Wed Sep 22, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876478, Location: 41.073573, -81.619592

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Wright Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

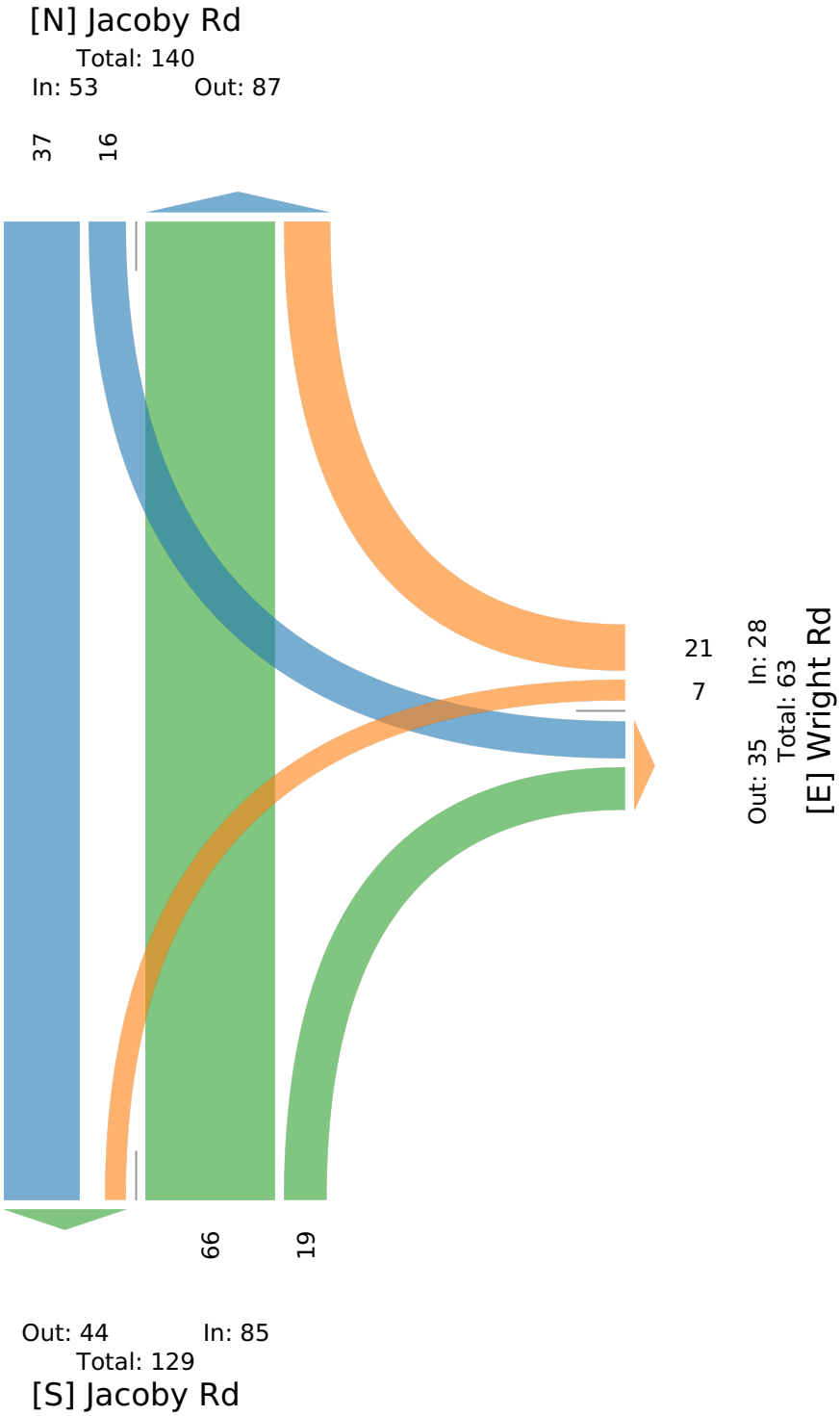
Wed Sep 22, 2021
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876478, Location: 41.073573, -81.619592

Leg Direction	Jacoby Rd Southbound				Wright Rd Westbound				Jacoby Rd Northbound				
Time	L	T	U	**App**	L	R	U	**App**	T	R	U	**App**	**Int**
2021-09-22 7:30AM	2	14	0	**16**	1	3	0	**4**	16	10	0	**26**	**46**
7:45AM	2	4	0	**6**	3	3	0	**6**	20	5	0	**25**	**37**
8:00AM	5	8	0	**13**	2	7	0	**9**	11	1	0	**12**	**34**
8:15AM	7	11	0	**18**	1	8	0	**9**	19	3	0	**22**	**49**
Total	16	37	0	**53**	7	21	0	**28**	66	19	0	**85**	**166**
% Approach	30.2%	69.8%	0%	**-**	25.0%	75.0%	0%	**-**	77.6%	22.4%	0%	**-**	-
% Total	9.6%	22.3%	0%	**31.9%**	4.2%	12.7%	0%	**16.9%**	39.8%	11.4%	0%	**51.2%**	-
PHF	0.571	0.661	-	**0.736**	0.583	0.656	-	**0.778**	0.825	0.475	-	**0.817**	0.847
Lights	14	36	0	**50**	6	20	0	**26**	63	18	0	**81**	157
% Lights	87.5%	97.3%	0%	**94.3%**	85.7%	95.2%	0%	**92.9%**	95.5%	94.7%	0%	**95.3%**	94.6%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	1	0	0	**1**	1
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	1.5%	0%	0%	**1.2%**	0.6%
Buses and Single-Unit Trucks	2	1	0	**3**	1	1	0	**2**	2	1	0	**3**	8
% Buses and Single-Unit Trucks	12.5%	2.7%	0%	**5.7%**	14.3%	4.8%	0%	**7.1%**	3.0%	5.3%	0%	**3.5%**	4.8%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Wright Rd - TMC
Wed Sep 22, 2021
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876478, Location: 41.073573, -81.619592

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Wright Rd - TMC

Wed Sep 22, 2021
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876478, Location: 41.073573, -81.619592

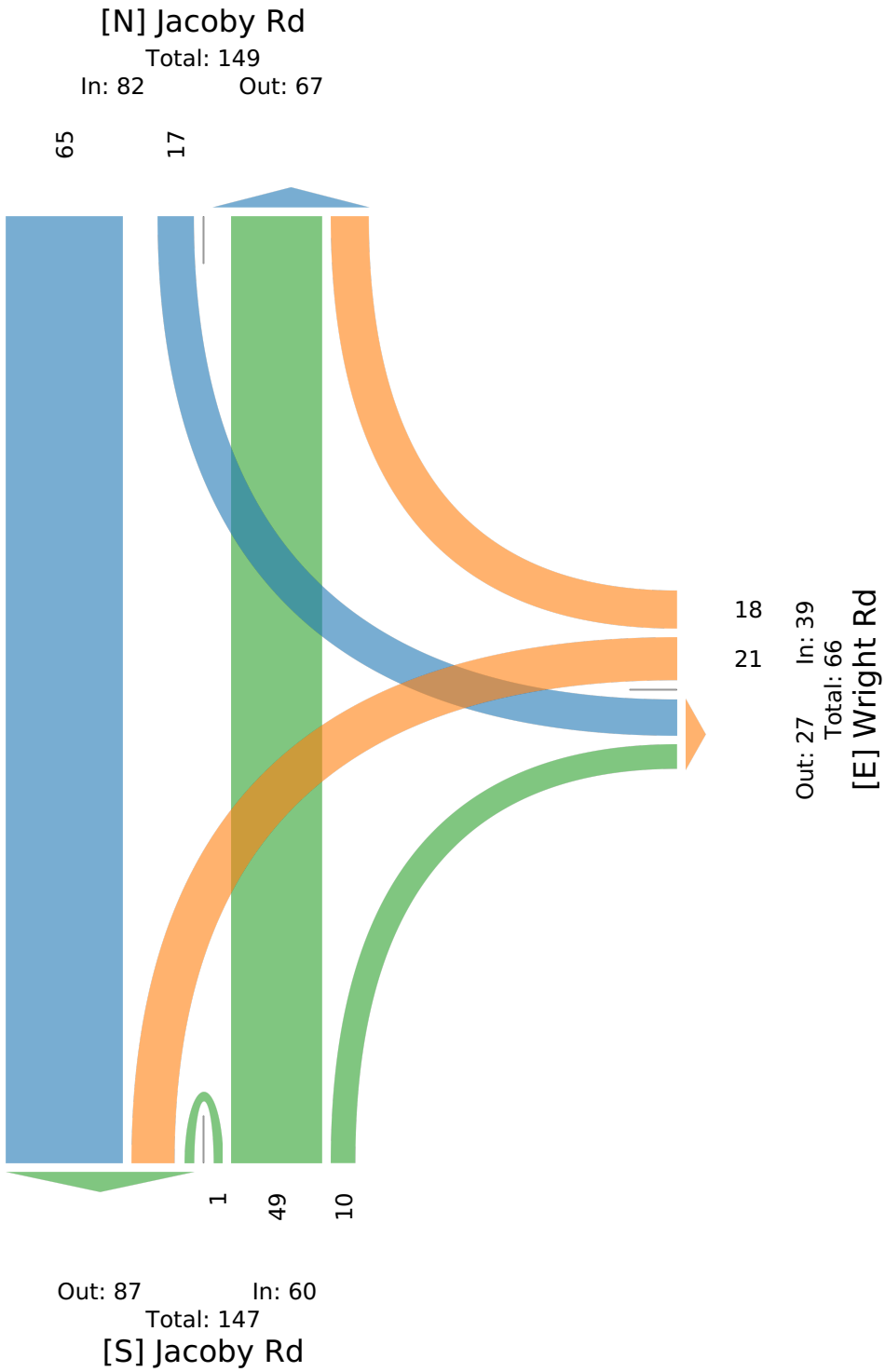
Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

Leg Direction	Jacoby Rd Southbound				Wright Rd Westbound				Jacoby Rd Northbound				
Time	L	T	U	**App**	L	R	U	**App**	T	R	U	**App**	**Int**
2021-09-22 4:15PM	5	16	0	**21**	8	4	0	**12**	14	1	0	**15**	**48**
4:30PM	3	15	0	**18**	3	2	0	**5**	13	3	0	**16**	**39**
4:45PM	4	13	0	**17**	6	7	0	**13**	9	3	0	**12**	**42**
5:00PM	5	21	0	**26**	4	5	0	**9**	13	3	1	**17**	**52**
Total	17	65	0	**82**	21	18	0	**39**	49	10	1	**60**	**181**
% Approach	20.7%	79.3%	0%	**-**	53.8%	46.2%	0%	**-**	81.7%	16.7%	1.7%	**-**	-
% Total	9.4%	35.9%	0%	**45.3%**	11.6%	9.9%	0%	**21.5%**	27.1%	5.5%	0.6%	**33.1%**	-
PHF	0.850	0.774	-	**0.788**	0.656	0.643	-	**0.750**	0.875	0.833	0.250	**0.882**	0.870
Lights	17	64	0	**81**	21	15	0	**36**	49	10	1	**60**	177
% Lights	100%	98.5%	0%	**98.8%**	100%	83.3%	0%	**92.3%**	100%	100%	100%	**100%**	97.8%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	1	0	**1**	0	3	0	**3**	0	0	0	**0**	4
% Buses and Single-Unit Trucks	0%	1.5%	0%	**1.2%**	0%	16.7%	0%	**7.7%**	0%	0%	0%	**0%**	2.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Wright Rd - TMC
Wed Sep 22, 2021
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876478, Location: 41.073573, -81.619592

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Summit Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

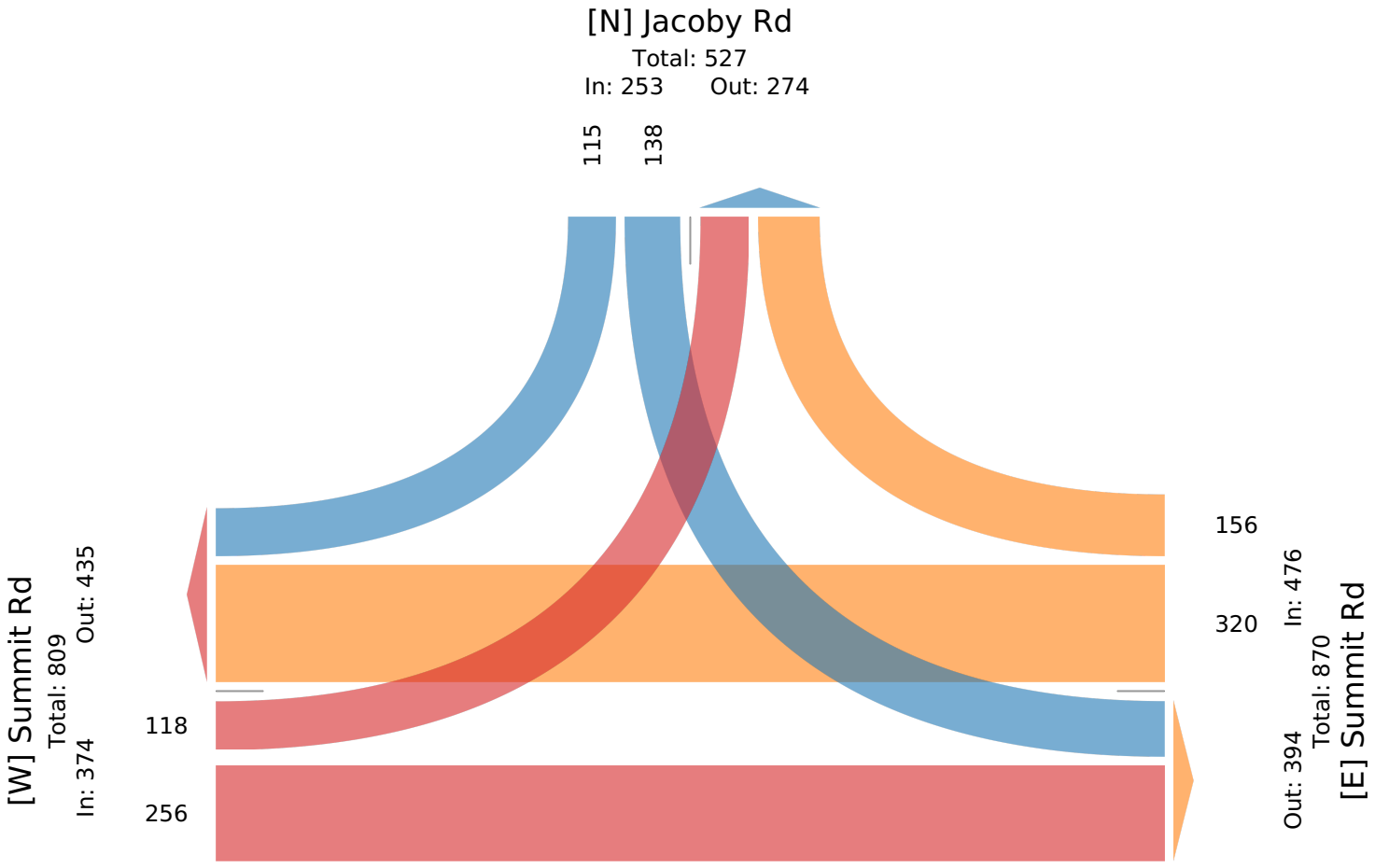
Wed Sep 22, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876480, Location: 41.069375, -81.626361

Leg	Jacoby Rd				Summit Rd				Summit Rd				
Direction	Southbound				Westbound				Eastbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-09-22 7:00AM	10	9	0	**19**	21	3	0	**24**	5	9	0	**14**	**57**
7:15AM	6	4	0	**10**	10	6	0	**16**	10	14	0	**24**	**50**
7:30AM	5	6	0	**11**	26	8	0	**34**	13	9	0	**22**	**67**
7:45AM	5	7	0	**12**	24	13	0	**37**	8	16	0	**24**	**73**
Hourly Total	26	26	0	**52**	81	30	0	**111**	36	48	0	**84**	**247**
8:00AM	6	4	0	**10**	15	9	0	**24**	3	9	0	**12**	**46**
8:15AM	7	7	0	**14**	25	16	0	**41**	7	12	0	**19**	**74**
8:30AM	8	4	0	**12**	22	5	0	**27**	9	14	0	**23**	**62**
8:45AM	7	12	0	**19**	8	9	0	**17**	2	9	0	**11**	**47**
Hourly Total	28	27	0	**55**	70	39	0	**109**	21	44	0	**65**	**229**
9:00AM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
4:00PM	7	10	0	**17**	15	16	0	**31**	7	26	0	**33**	**81**
4:15PM	13	11	0	**24**	29	12	0	**41**	8	20	0	**28**	**93**
4:30PM	10	4	0	**14**	21	9	0	**30**	6	22	0	**28**	**72**
4:45PM	8	10	0	**18**	20	9	0	**29**	4	14	0	**18**	**65**
Hourly Total	38	35	0	**73**	85	46	0	**131**	25	82	0	**107**	**311**
5:00PM	16	8	0	**24**	22	9	0	**31**	11	20	0	**31**	**86**
5:15PM	18	6	0	**24**	23	11	0	**34**	4	27	0	**31**	**89**
5:30PM	4	8	0	**12**	23	7	0	**30**	10	24	0	**34**	**76**
5:45PM	8	5	0	**13**	16	14	0	**30**	11	11	0	**22**	**65**
Hourly Total	46	27	0	**73**	84	41	0	**125**	36	82	0	**118**	**316**
6:00PM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	138	115	0	**253**	320	156	0	**476**	118	256	0	**374**	**1103**
% Approach	54.5%	45.5%	0%	**-**	67.2%	32.8%	0%	**-**	31.6%	68.4%	0%	**-**	-
% Total	12.5%	10.4%	0%	**22.9%**	29.0%	14.1%	0%	**43.2%**	10.7%	23.2%	0%	**33.9%**	-
Lights	136	113	0	**249**	300	152	0	**452**	115	246	0	**361**	1062
% Lights	98.6%	98.3%	0%	**98.4%**	93.8%	97.4%	0%	**95.0%**	97.5%	96.1%	0%	**96.5%**	96.3%
Articulated Trucks	0	0	0	**0**	2	1	0	**3**	1	2	0	**3**	6
% Articulated Trucks	0%	0%	0%	**0%**	0.6%	0.6%	0%	**0.6%**	0.8%	0.8%	0%	**0.8%**	0.5%
Buses and Single-Unit Trucks	2	2	0	**4**	18	3	0	**21**	2	8	0	**10**	35
% Buses and Single-Unit Trucks	1.4%	1.7%	0%	**1.6%**	5.6%	1.9%	0%	**4.4%**	1.7%	3.1%	0%	**2.7%**	3.2%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Summit Rd - TMC
Wed Sep 22, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876480, Location: 41.069375, -81.626361

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Summit Rd - TMC

Wed Sep 22, 2021
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876480, Location: 41.069375, -81.626361

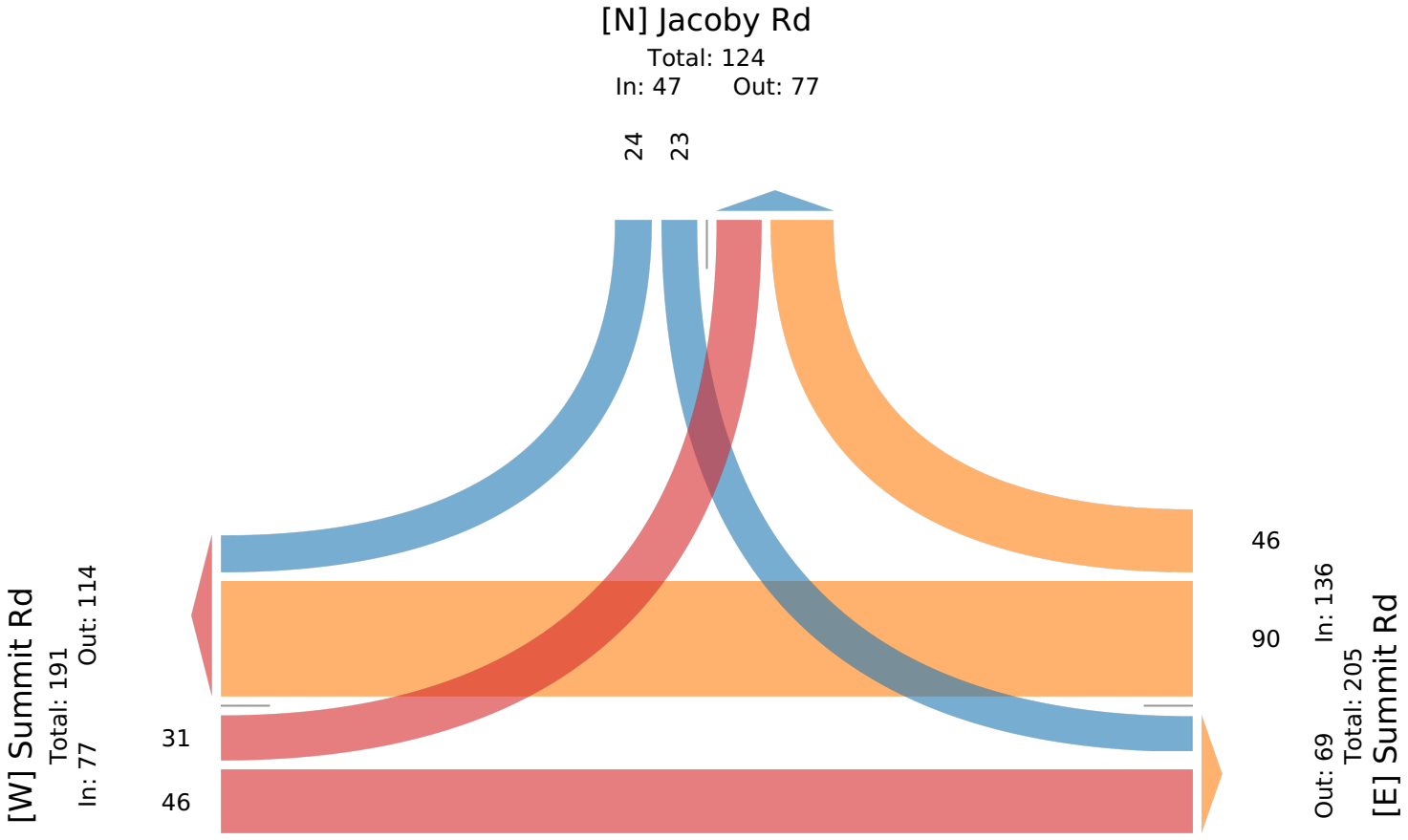
Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

Leg Direction	Jacoby Rd Southbound				Summit Rd Westbound				Summit Rd Eastbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-09-22 7:30AM	5	6	0	**11**	26	8	0	**34**	13	9	0	**22**	**67**
7:45AM	5	7	0	**12**	24	13	0	**37**	8	16	0	**24**	**73**
8:00AM	6	4	0	**10**	15	9	0	**24**	3	9	0	**12**	**46**
8:15AM	7	7	0	**14**	25	16	0	**41**	7	12	0	**19**	**74**
Total	23	24	0	**47**	90	46	0	**136**	31	46	0	**77**	**260**
% Approach	48.9%	51.1%	0%	**-**	66.2%	33.8%	0%	**-**	40.3%	59.7%	0%	**-**	-
% Total	8.8%	9.2%	0%	**18.1%**	34.6%	17.7%	0%	**52.3%**	11.9%	17.7%	0%	**29.6%**	-
PHF	0.821	0.857	-	**0.839**	0.865	0.719	-	**0.829**	0.596	0.719	-	**0.802**	0.878
Lights	22	23	0	**45**	82	43	0	**125**	31	46	0	**77**	247
% Lights	95.7%	95.8%	0%	**95.7%**	91.1%	93.5%	0%	**91.9%**	100%	100%	0%	**100%**	95.0%
Articulated Trucks	0	0	0	**0**	2	1	0	**3**	0	0	0	**0**	3
% Articulated Trucks	0%	0%	0%	**0%**	2.2%	2.2%	0%	**2.2%**	0%	0%	0%	**0%**	1.2%
Buses and Single-Unit Trucks	1	1	0	**2**	6	2	0	**8**	0	0	0	**0**	10
% Buses and Single-Unit Trucks	4.3%	4.2%	0%	**4.3%**	6.7%	4.3%	0%	**5.9%**	0%	0%	0%	**0%**	3.8%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Summit Rd - TMC
Wed Sep 22, 2021
AM Peak (7:30 AM - 8:30 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876480, Location: 41.069375, -81.626361

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



Jacoby Rd & Summit Rd - TMC

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US

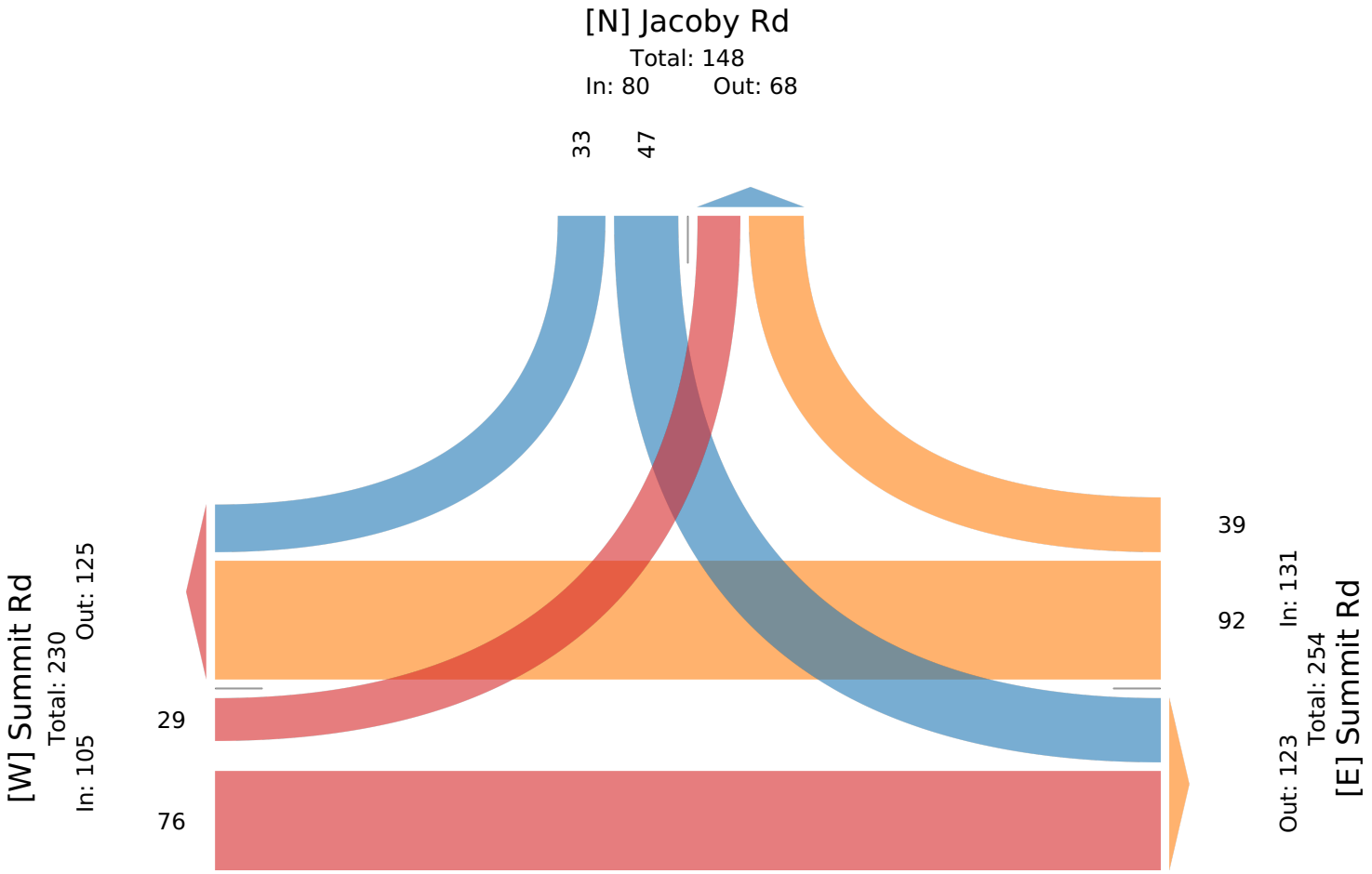
Wed Sep 22, 2021
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876480, Location: 41.069375, -81.626361

Leg	Jacoby Rd				Summit Rd				Summit Rd				
Direction	Southbound				Westbound				Eastbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-09-22 4:15PM	13	11	0	**24**	29	12	0	**41**	8	20	0	**28**	**93**
4:30PM	10	4	0	**14**	21	9	0	**30**	6	22	0	**28**	**72**
4:45PM	8	10	0	**18**	20	9	0	**29**	4	14	0	**18**	**65**
5:00PM	16	8	0	**24**	22	9	0	**31**	11	20	0	**31**	**86**
Total	47	33	0	**80**	92	39	0	**131**	29	76	0	**105**	**316**
% Approach	58.8%	41.3%	0%	**-**	70.2%	29.8%	0%	**-**	27.6%	72.4%	0%	**-**	-
% Total	14.9%	10.4%	0%	**25.3%**	29.1%	12.3%	0%	**41.5%**	9.2%	24.1%	0%	**33.2%**	-
PHF	0.734	0.750	-	**0.833**	0.793	0.813	-	**0.799**	0.659	0.864	-	**0.847**	0.849
Lights	47	33	0	**80**	89	39	0	**128**	29	73	0	**102**	310
% Lights	100%	100%	0%	**100%**	96.7%	100%	0%	**97.7%**	100%	96.1%	0%	**97.1%**	98.1%
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0
% Articulated Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%	0%	0%	**0%**	0%
Buses and Single-Unit Trucks	0	0	0	**0**	3	0	0	**3**	0	3	0	**3**	6
% Buses and Single-Unit Trucks	0%	0%	0%	**0%**	3.3%	0%	0%	**2.3%**	0%	3.9%	0%	**2.9%**	1.9%

*L: Left, R: Right, T: Thru, U: U-Turn

Jacoby Rd & Summit Rd - TMC
Wed Sep 22, 2021
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 876480, Location: 41.069375, -81.626361

Provided by: Prime AE Group
540 White Pond Drive. Suite E, Akron, OH, 44320, US



PEAK HOUR to DESIGN HOUR FACTORS

FUNCTIONAL CLASSIFICATION = 04r

(Rural Minor Arterial)

Day / Month	Monthly Average by Day-of-Week							
	WEEKDAY MON-THUR	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January	1.32	1.84	1.35	1.34	1.30	1.29	1.23	1.63
February	1.27	1.76	1.31	1.26	1.26	1.25	1.17	1.54
March	1.23	1.65	1.25	1.24	1.23	1.20	1.14	1.49
April	1.18	1.55	1.21	1.20	1.16	1.15	1.07	1.42
May	1.14	1.47	1.17	1.14	1.14	1.12	1.05	1.32
June	1.16	1.43	1.20	1.18	1.15	1.12	1.07	1.29
July	1.17	1.45	1.22	1.18	1.16	1.14	1.09	1.31
August	1.15	1.44	1.19	1.15	1.15	1.12	1.04	1.27
September	1.16	1.48	1.23	1.16	1.15	1.12	1.04	1.35
October	1.17	1.50	1.20	1.17	1.17	1.13	1.05	1.34
November	1.23	1.65	1.28	1.22	1.22	1.21	1.11	1.51
December	1.23	1.70	1.26	1.23	1.22	1.20	1.15	1.52

peak hour volume * factor = design hour volume

source: year 2016, 2017, & 2018 Automatic Traffic Recorders (ATR) Data

ATR Stations:

2018: 26, 69, 163, 165, 515, 607, 710, 738, 771, 780
2017: 26, 53, 69, 163, 165, 515, 607, 710, 738, 771
2016: 26, 53, 69, 163, 165, 607, 710, 771

Ohio Department of Transportatio
Modeling & Forecasting Section
June 2019

NOTE: These are NOT seasonal adjustment factors!!!

PEAK HOUR to DESIGN HOUR FACTORS

FUNCTIONAL CLASSIFICATION = 05, 06r

(Rural Major Collector & Rural Minor Collector)

Day / Month	Monthly Average by Day-of-Week							
	WEEKDAY MON-THUR	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
January	1.31	2.00	1.35	1.32	1.29	1.28	1.23	1.80
February	1.26	1.91	1.27	1.25	1.27	1.28	1.18	1.67
March	1.24	1.80	1.25	1.24	1.24	1.23	1.17	1.64
April	1.16	1.60	1.20	1.18	1.13	1.14	1.08	1.55
May	1.13	1.56	1.15	1.12	1.12	1.11	1.06	1.46
June	1.18	1.57	1.20	1.20	1.15	1.15	1.13	1.44
July	1.22	1.60	1.25	1.22	1.20	1.22	1.17	1.50
August	1.17	1.53	1.18	1.17	1.16	1.14	1.09	1.40
September	1.13	1.54	1.16	1.13	1.12	1.10	1.04	1.39
October	1.13	1.59	1.17	1.11	1.12	1.11	1.04	1.39
November	1.18	1.77	1.21	1.17	1.17	1.19	1.08	1.59
December	1.22	1.86	1.22	1.22	1.22	1.24	1.16	1.64

peak hour volume * factor = design hour volume

source: year 2016, 2017, & 2018 Automatic Traffic Recorders (ATR) Data

ATR Stations:

2018: 7, 67, 171, 516, 520, 548, 773, 774
2017: 7, 67, 171, 516, 520, 773, 774, 548, 549
2016: 7, 67, 516, 520, 773, 774, 548, 549

Ohio Department of Transportatio
Modeling & Forecasting Section
June 2019

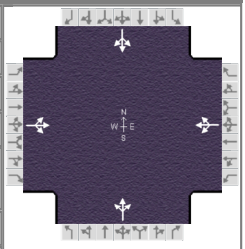
NOTE: These are NOT seasonal adjustment factors!!!

Note: Insufficient data exists to produce factors for functional class 07 Rural.

APPENDIX C
EXISTING CONDITIONS
CAPACITY ANALYSIS REPORTS

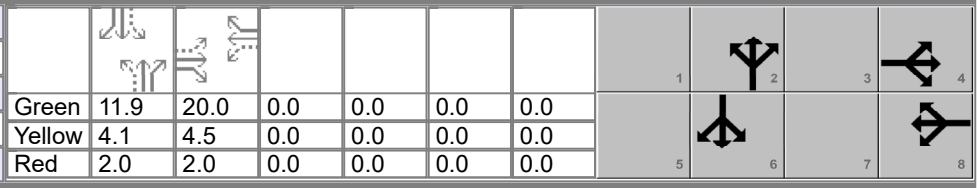
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction		Time Period	AM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2021 Existing Conditions	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	2021 AM Existing.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	56	177	22	52	154	75	26	64	59	80	48	99

Signal Information			
Cycle, s	44.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	11.9	20.0	0.0	0.0	0.0	0.0		
Yellow	4.1	4.5	0.0	0.0	0.0	0.0		
Red	2.0	2.0	0.0	0.0	0.0	0.0		

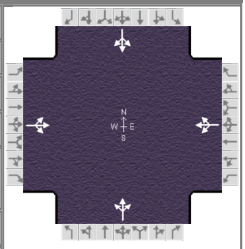
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.0		18.0
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.3		3.3
Queue Clearance Time (g_s), s		6.3		7.0		5.3		7.7
Green Extension Time (g_e), s		1.2		1.2		0.8		0.8
Phase Call Probability		1.00		1.00		0.99		0.99
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		277			305			162			247	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1715			1705			1701			1580	
Queue Service Time (g_s), s		0.0			0.0			0.0			2.5	
Cycle Queue Clearance Time (g_c), s		4.3			5.0			3.3			5.7	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		869			862			550			533	
Volume-to-Capacity Ratio (*X*)		0.319			0.354			0.294			0.463	
Back of Queue (*Q*), ft/ln (95 th percentile)		55.2			62.5			48.5			79	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.2			2.5			1.9			3.2	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		7.9			8.1			13.1			13.9	
Incremental Delay (d_2), s/veh		0.1			0.1			0.1			0.2	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.0			8.2			13.2			14.2	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.0	A		8.2	A		13.2	B		14.2	B	
Intersection Delay, s/veh / LOS	10.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.94	A	0.99	A	0.75	A	0.89	A

HCS7 Signalized Intersection Results Summary

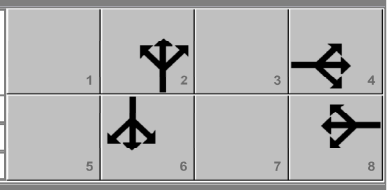
General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction		Time Period	PM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2021 Existing Conditions	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	2021 PM Existing.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	63	178	29	33	228	143	20	55	25	106	93	77

Signal Information			
Cycle, s	44.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.9	20.0	0.0	0.0	0.0	0.0	
Yellow	4.1	4.5	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.0		18.0
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g_s), s		6.6		10.0		4.1		9.3
Green Extension Time (g_e), s		1.6		1.6		0.8		0.8
Phase Call Probability		1.00		1.00		0.99		0.99
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		293			439			109			300	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1644			1745			1737			1607	
Queue Service Time (g_s), s		0.0			0.0			0.0			5.3	
Cycle Queue Clearance Time (g_c), s		4.6			8.0			2.1			7.3	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		838			872			562			542	
Volume-to-Capacity Ratio (*X*)		0.350			0.504			0.193			0.553	
Back of Queue (*Q*), ft/ln (95 th percentile)		59.3			99			31.4			100.5	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.4			4.0			1.3			4.0	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.0			9.0			12.7			14.5	
Incremental Delay (d_2), s/veh		0.1			0.2			0.1			0.3	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.1			9.1			12.8			14.8	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.1	A		9.1	A		12.8	B		14.8	B	
Intersection Delay, s/veh / LOS	10.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.97	A	1.21	A	0.67	A	0.98	A

HCS7 Two-Way Stop-Control Report

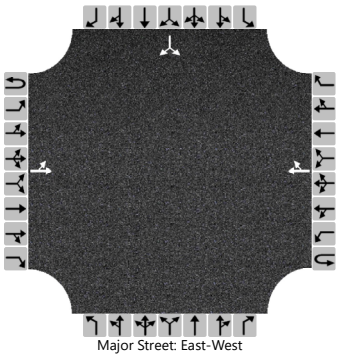
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2021
Time Analyzed	PM Peak - Existing
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		35	52				101	52						26		27
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		38													58	
Capacity, c (veh/h)		1406													790	
v/c Ratio		0.03													0.07	
95% Queue Length, Q_{95} (veh)		0.1													0.2	
Control Delay (s/veh)		7.6													9.9	
Level of Service (LOS)		A													A	
Approach Delay (s/veh)		3.2												9.9		
Approach LOS														A		

HCS7 Two-Way Stop-Control Report

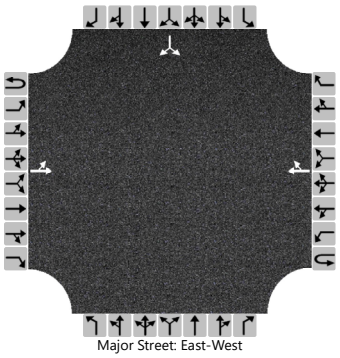
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2021
Time Analyzed	PM Peak - Existing
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		32	85				103	44						53		37
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

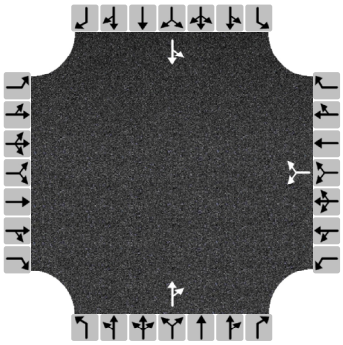
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		35													98	
Capacity, c (veh/h)		1413													754	
v/c Ratio		0.02													0.13	
95% Queue Length, Q_{95} (veh)		0.1													0.4	
Control Delay (s/veh)		7.6													10.5	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		2.2												10.5		
Approach LOS														B		

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2021	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Peak - Existing		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				8		24		74	21	18	41	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				35			103			64		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.031			0.092			0.057		
Final Departure Headway, hd (s)				3.88			3.94			4.16		
Final Degree of Utilization, x				0.038			0.113			0.074		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				1.88			1.94			2.16		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				35			103			64		
Capacity				927			915			865		
95% Queue Length, Q_{95} (veh)				0.1			0.4			0.2		
Control Delay (s/veh)				7.0			7.4			7.5		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.0			7.4			7.5		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.4						A					

HCS7 All-Way Stop Control Report

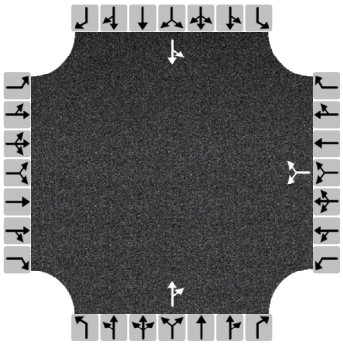
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2021
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak - Existing
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Wright Rd
Jurisdiction	Copley Township
East/West Street	Wright Rd.
North/South Street	Jacoby Rd.
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				24		20		55	11	19	73	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				48			72			100		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.043			0.064			0.089		
Final Departure Headway, hd (s)				4.14			4.04			4.15		
Final Degree of Utilization, x				0.055			0.080			0.115		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				2.14			2.04			2.15		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				48			72			100		
Capacity				870			892			868		
95% Queue Length, Q_{95} (veh)				0.2			0.3			0.4		
Control Delay (s/veh)				7.4			7.4			7.7		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.4			7.4			7.7		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.5						A					

APPENDIX D
TRAFFIC GROWTH RATES & TRIP GENERATION DATA

Ben Morgan

From: Prater, Amy <APrater@akronohio.gov>
Sent: Tuesday, September 28, 2021 11:41 AM
To: Ben Morgan
Cc: Eric Smith
Subject: RE: [External]Traffic Growth Rate Request

Ben,

I don't believe we have a count at that location. I did check ODOT's MS2 website and they have the following counts (see below). I would assume very minimal growth or even 0% as base growth. Obviously, add any trip generation you are aware of to the base growth.

2,920 in 2013
3,050 in 2008

This volume is honestly so low, it will not be a capacity problem without major development. Please let me know if I can help with anything else.

Amy Prater, P.E.
Transportation Engineer
AMATS
330-375-2436 x 4633
330-417-2010 (Cell)

From: Ben Morgan [mailto:bmorgan@primeeng.com]
Sent: Tuesday, September 28, 2021 11:22 AM
To: Prater, Amy <APrater@akronohio.gov>
Cc: Eric Smith <esmith@primeeng.com>
Subject: [External]Traffic Growth Rate Request

Hi Amy,

I have another growth rate request for you. We're looking at a project on Jacoby Rd. in Copley Township between Copley Rd. and Wright Rd. There doesn't appear to be any count stations near that segment that we can use to calculate an assumed rate so your help would be greatly appreciated.

Thank you!

Ben Morgan, E.I.
Transportation | Graduate Engineer

PRIME AE Group, Inc.
540 White Pond Drive | Suite E | Akron, OH 44320
P: 330 752 6065 | bmorgan@primeeng.com

Land Use Trip Generation Table
Jacoby Rd. Apartments
Copley Township, Ohio

LAND USE	SIZE	UNITS	ITE CODE	WEEKDAY	AM PEAK		PM PEAK	
					Enter	Exit	Enter	Exit
Multifamily Housing (Low-Rise)								
Jacoby Rd. Apartments - Copley Twnshp.	142	Dwelling Units	220	1033	15	52	50	30

NOTES:

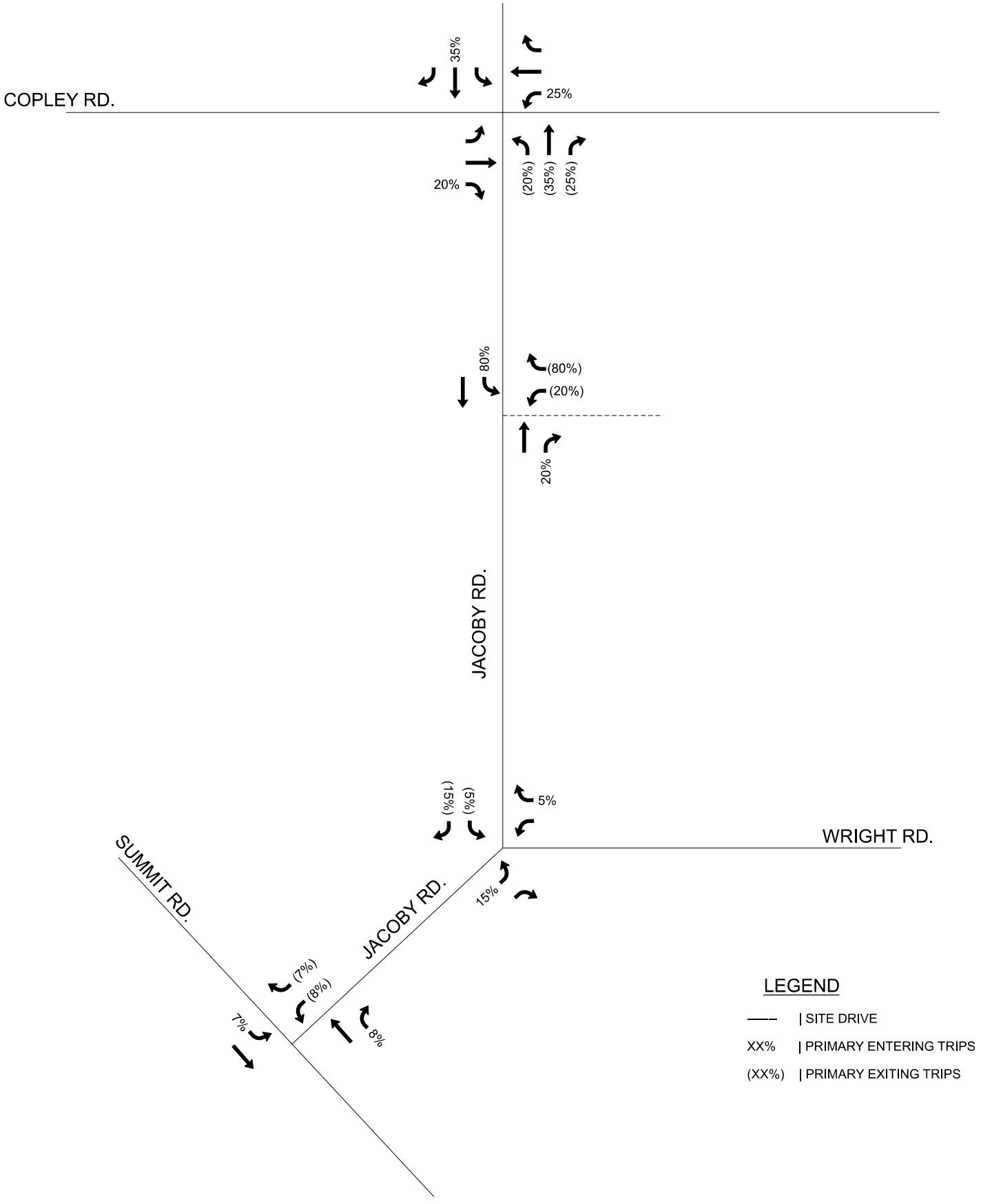
[1] ITE Trip Generation Manual, 10th Edition

APPENDIX E
DESIGN VOLUME CALCULATIONS, TRIP DISTRIBUTION & TRAFFIC VOLUME FIGURES

Volume Adjustment Calculations			Jacoby Rd. & Copley Rd.															
			Jacoby Rd. *Southbound*				Copley Rd. *Eastbound*				Jacoby Rd. *Northbound*				Copley Rd. *Westbound*			
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM Peak	2021	Raw	71	43	88	202	49	154	19	222	23	57	53	133	45	134	65	244
	DHV	Factor	1.12	1.12	1.12		1.15	1.15	1.15		1.12	1.12	1.12		1.15	1.15	1.15	
	2021	No Build	80	48	99	226	56	177	22	255	26	64	59	149	52	154	75	281
	Growth	Factor	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	
	2022	Total	80	48	99	227	56	178	22	256	26	64	60	149	52	154	75	281
	Opening Year	Rounded	80	50	100	230	60	180	20	260	30	60	60	150	50	150	80	280
	2042	Total	84	51	104	238	59	186	23	269	27	67	62	157	54	162	79	295
	Design Year	Rounded	80	50	100	230	60	190	20	270	30	70	60	160	50	160	80	290
PM Peak	2021	Raw	95	83	69	247	55	155	25	235	18	49	22	89	29	198	124	351
	DHV	Factor	1.12	1.12	1.12		1.15	1.15	1.15		1.12	1.12	1.12		1.15	1.15	1.15	
	2021	No Build	106	93	77	277	63	178	29	270	20	55	25	100	33	228	143	404
	Growth	Factor	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	
	2022	Total	107	93	77	277	63	179	29	271	20	55	25	100	33	228	143	405
	Opening Year	Rounded	110	90	80	280	60	180	30	270	20	60	30	110	30	230	140	400
	2042	Total	112	98	81	291	67	188	30	284	21	58	26	105	35	240	150	425
	Design Year	Rounded	110	100	80	290	70	190	30	290	20	60	30	110	40	240	150	430

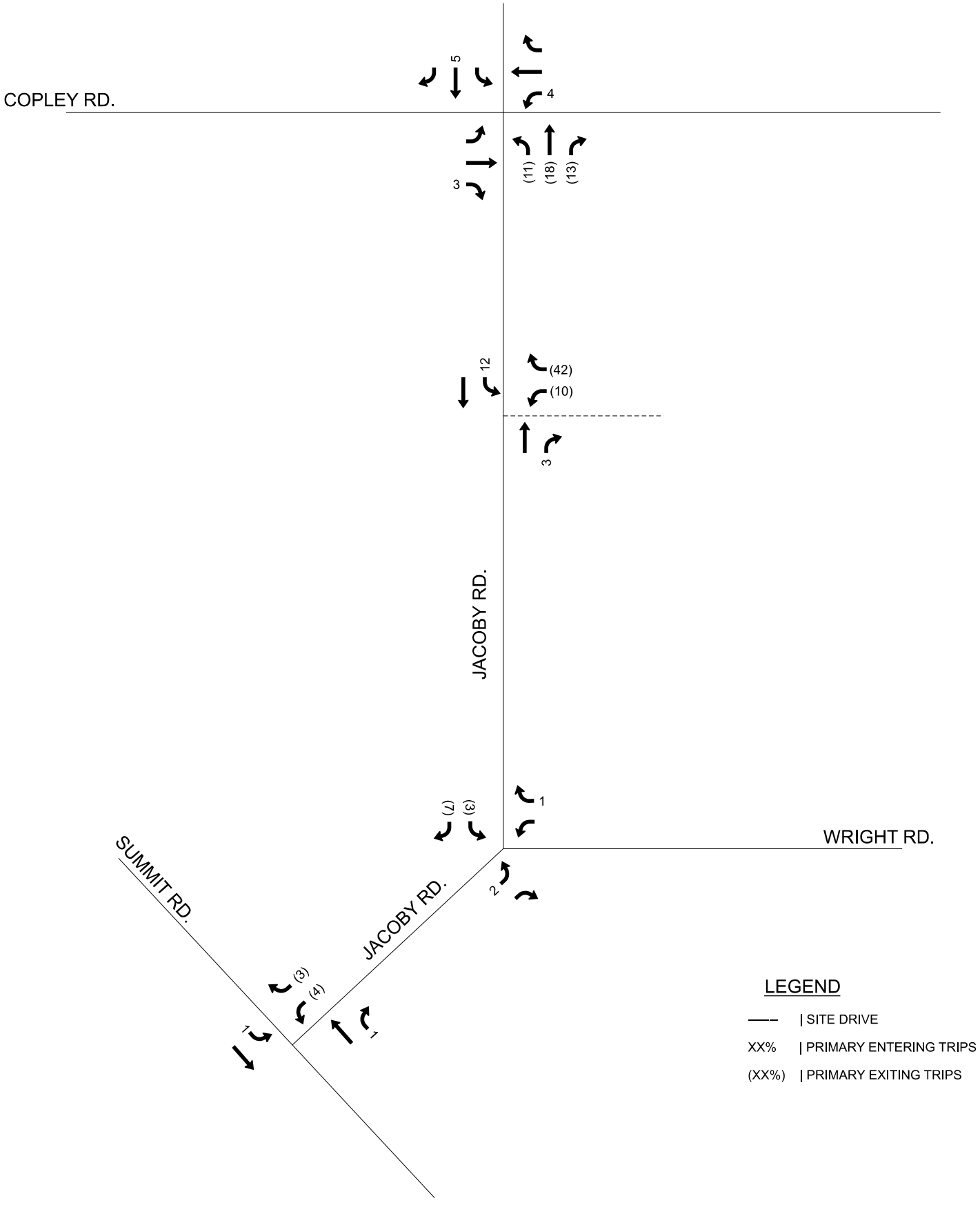
Volume Adjustment Calculations			Jacoby Rd. & Wright Rd.															
			Jacoby Rd.								Jacoby Rd.				Wright Rd.			
			Southbound				*Eastbound*				*Northbound*				*Westbound*			
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM Peak	2021	Raw	16	37	0	53	0	0	0	0	0	66	19	85	7	0	21	28
	DHV	Factor	1.12	1.12	1.12		1.00	1.00	1.00		1.12	1.12	1.12		1.12	1.12	1.12	
	2021	No Build	18	41	0	59	0	0	0	0	0	74	21	95	8	0	24	31
	Growth	Factor	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	
	2022	Total	18	42	0	60	0	0	0	0	0	74	21	95	8	0	24	31
	Opening Year	Rounded	20	40	0	60	0	0	0	0	0	70	20	90	10	0	20	30
	2042	Total	19	44	0	62	0	0	0	0	0	78	22	100	8	0	25	33
	Design Year	Rounded	20	40	0	60	0	0	0	0	0	80	20	100	10	0	30	40
PM Peak	2021	Raw	17	65	0	82	0	0	0	0	0	49	10	59	21	0	18	39
	DHV	Factor	1.12	1.12	1.12		1.00	1.00	1.00		1.12	1.12	1.12		1.12	1.12	1.12	
	2021	No Build	19	73	0	92	0	0	0	0	0	55	11	66	24	0	20	44
	Growth	Factor	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	
	2022	Total	19	73	0	92	0	0	0	0	0	55	11	66	24	0	20	44
	Opening Year	Rounded	20	70	0	90	0	0	0	0	0	60	10	70	20	0	20	40
	2042	Total	20	77	0	97	0	0	0	0	0	58	12	70	25	0	21	46
	Design Year	Rounded	20	80	0	100	0	0	0	0	0	60	10	70	30	0	20	50

Volume Adjustment Calculations			Jacoby Rd & Summit Rd															
			Jacoby Rd.				Summit Rd								Summit Rd			
			Southbound				*Westbound*				*Northbound*				*Eastbound*			
			Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM Peak	2021	Raw	23	0	24	47	0	90	46	136	0	0	0	0	31	46	0	77
	DHV	Factor	1.12	1.12	1.12		1.12	1.12	1.12		1.00	1.00	1.00		1.12	1.12	1.12	
	2021	No Build	26	0	27	53	0	101	52	152	0	0	0	0	35	52	0	86
	Growth	Factor	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	
	2022	Total	26	0	27	53	0	101	52	153	0	0	0	0	35	52	0	86
	Opening Year	Rounded	30	0	30	60	0	100	50	150	0	0	0	0	40	50	0	90
	2042	Total	27	0	28	55	0	106	54	160	0	0	0	0	37	54	0	91
	Design Year	Rounded	30	0	30	60	0	110	50	160	0	0	0	0	40	50	0	90
PM Peak	2021	Raw	47	0	33	80	0	92	39	131	0	0	0	0	29	76	0	105
	DHV	Factor	1.12	1.12	1.12		1.12	1.12	1.12		1.00	1.00	1.00		1.12	1.12	1.12	
	2021	No Build	53	0	37	90	0	103	44	147	0	0	0	0	32	85	0	118
	Growth	Factor	0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%		0.25%	0.25%	0.25%	
	2022	Total	53	0	37	90	0	103	44	147	0	0	0	0	33	85	0	118
	Opening Year	Rounded	50	0	40	90	0	100	40	140	0	0	0	0	30	90	0	120
	2042	Total	55	0	39	94	0	108	46	154	0	0	0	0	34	90	0	124
	Design Year	Rounded	60	0	40	100	0	110	50	160	0	0	0	0	30	90	0	120



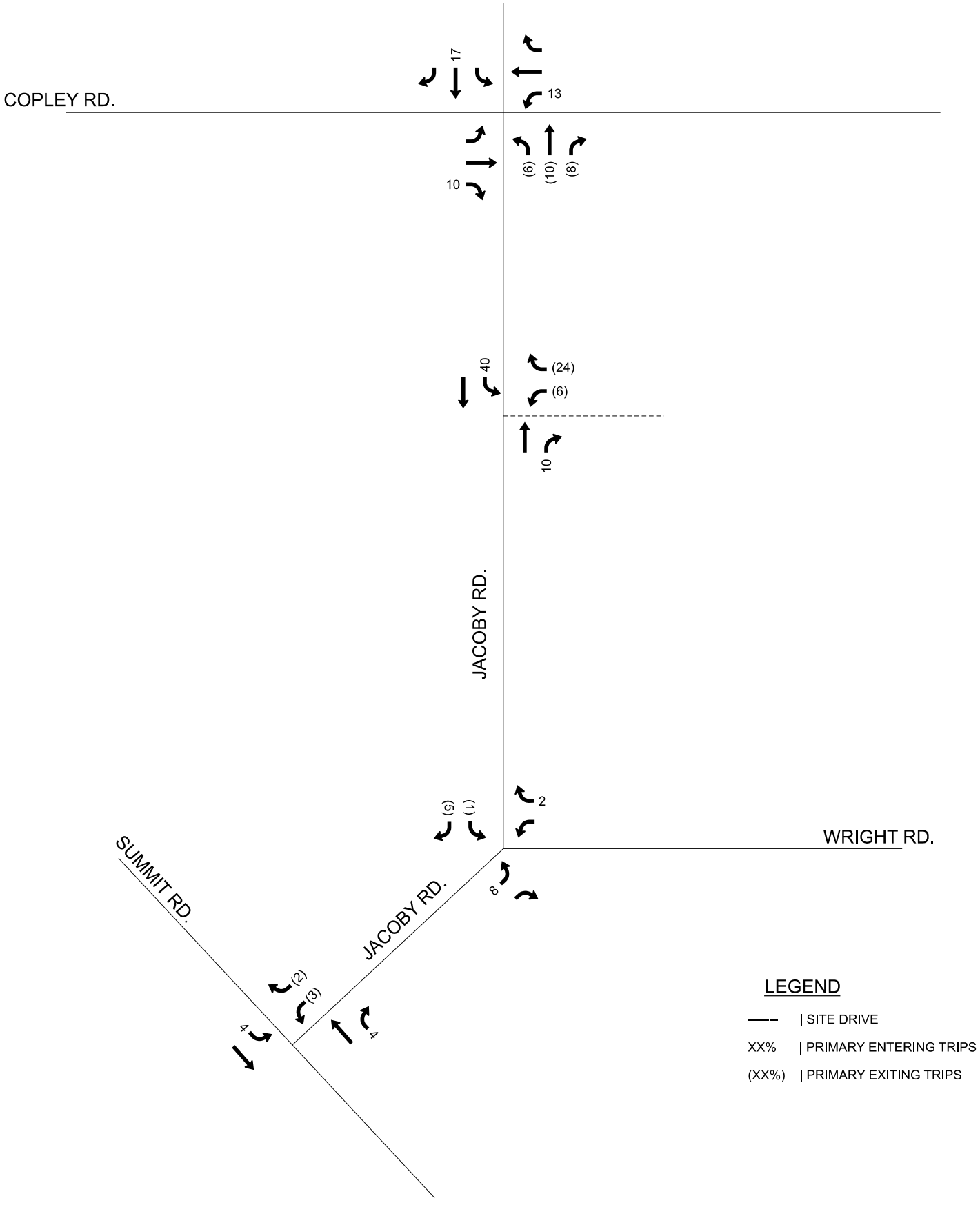
TRIP DISTRIBUTION DIAGRAM
JACOBY RD. APARTMENTS

PRIME AE®



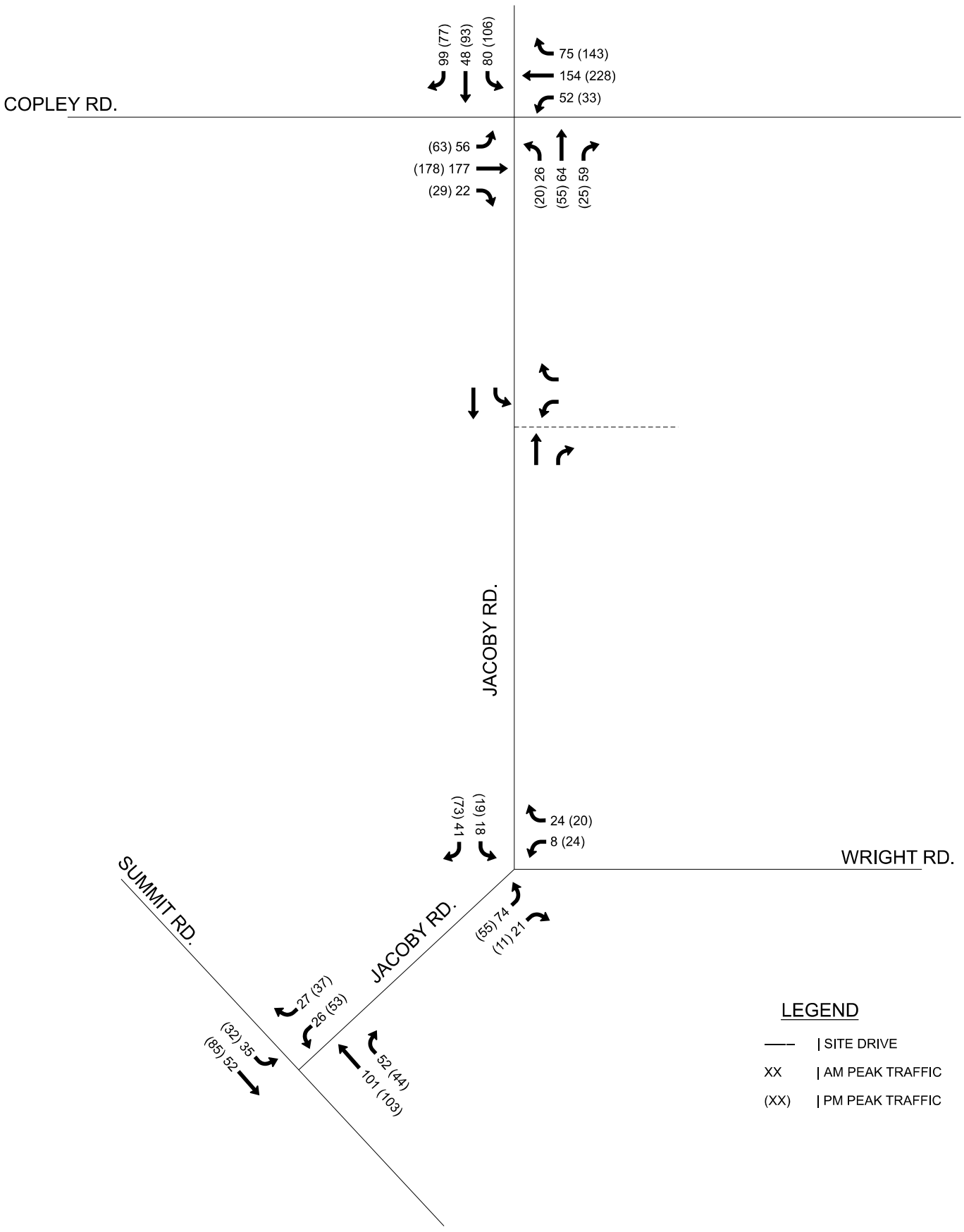
AM PEAK TRIP DISTRIBUTION DIAGRAM
JACOBY RD. APARTMENTS

PRIME AE®

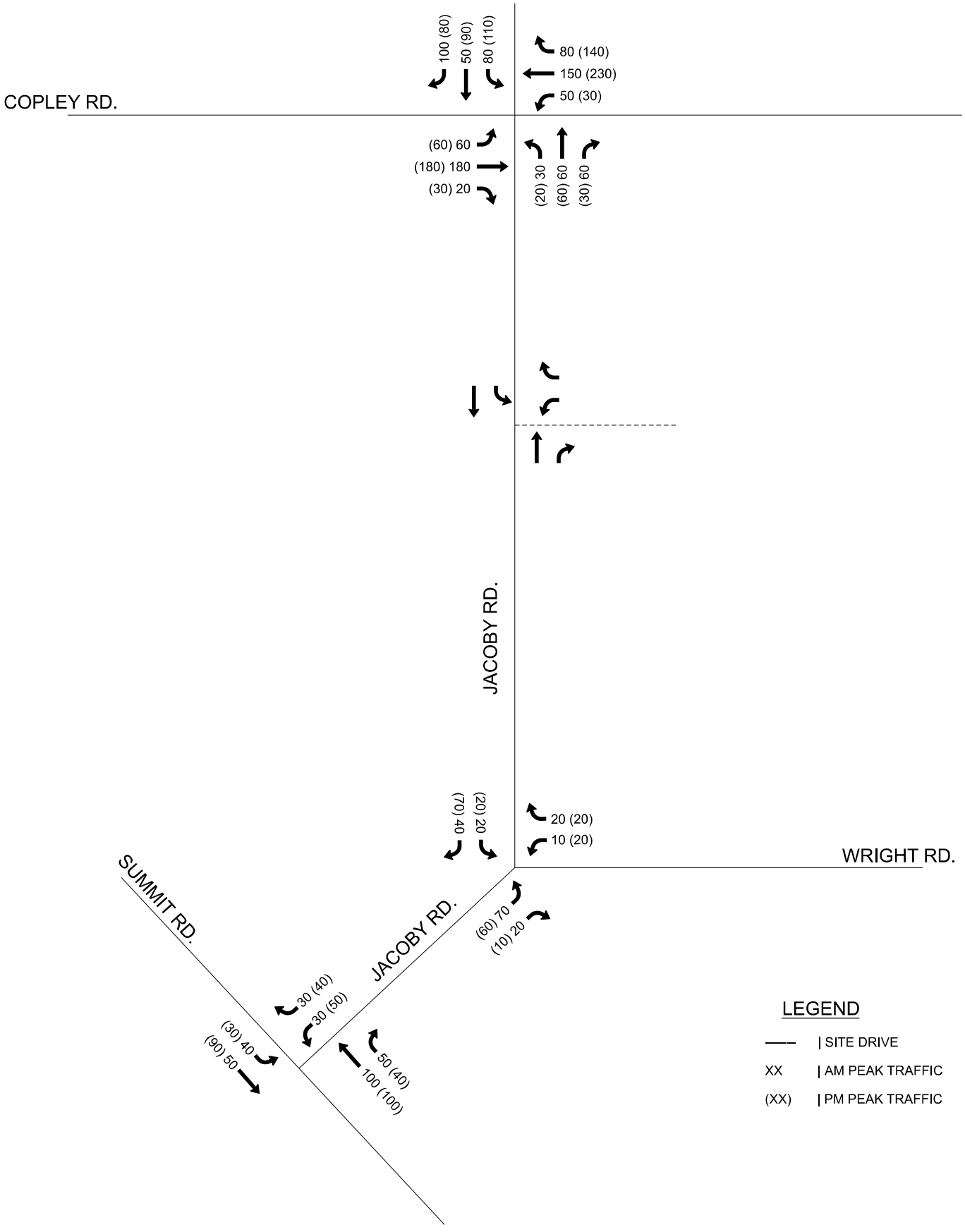


PM PEAK TRIP DISTRIBUTION DIAGRAM
JACOBY RD. APARTMENTS

PRIME AE®

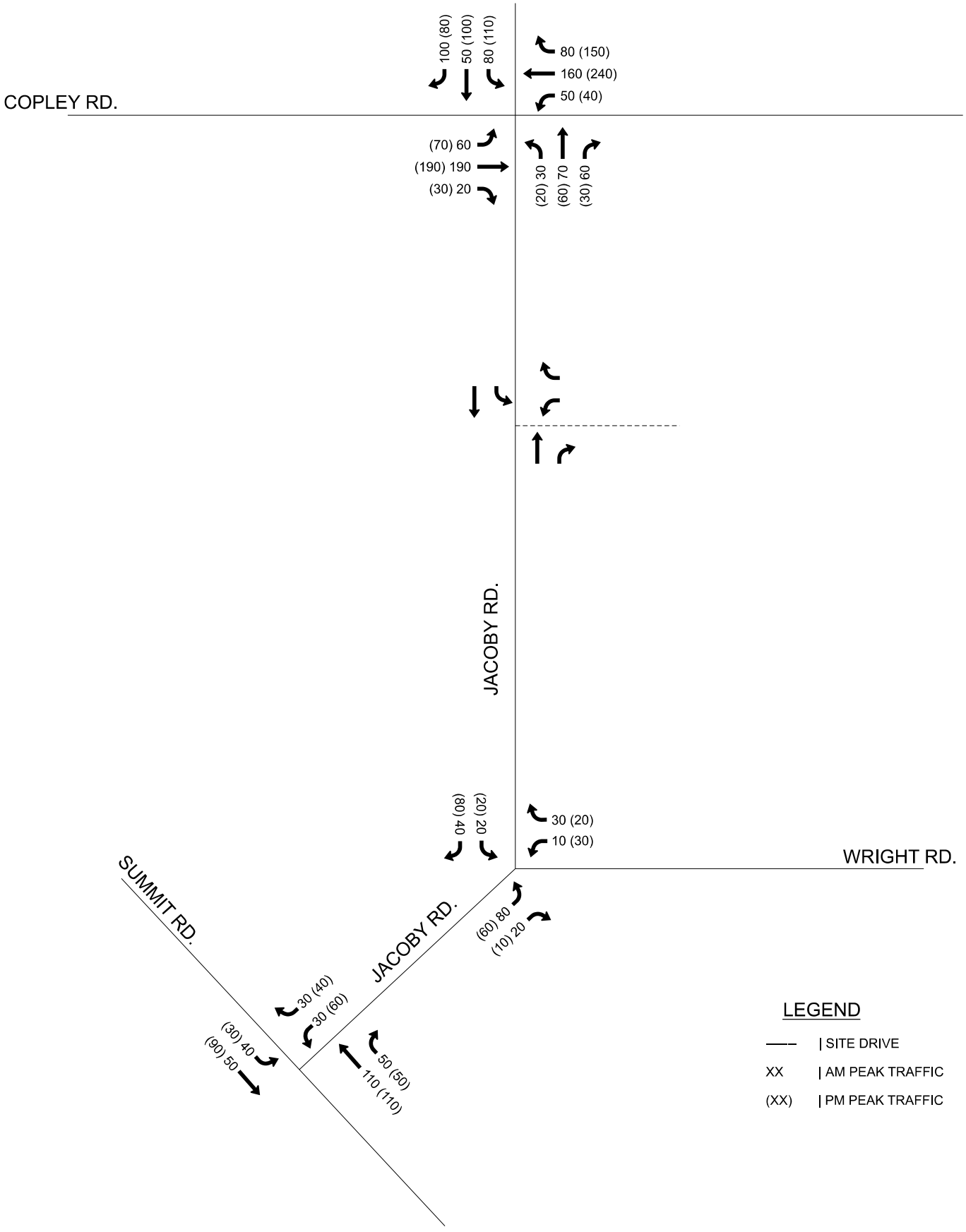


2021 EXISTING TRAFFIC VOLUMES
JACOBY RD. APARTMENTS



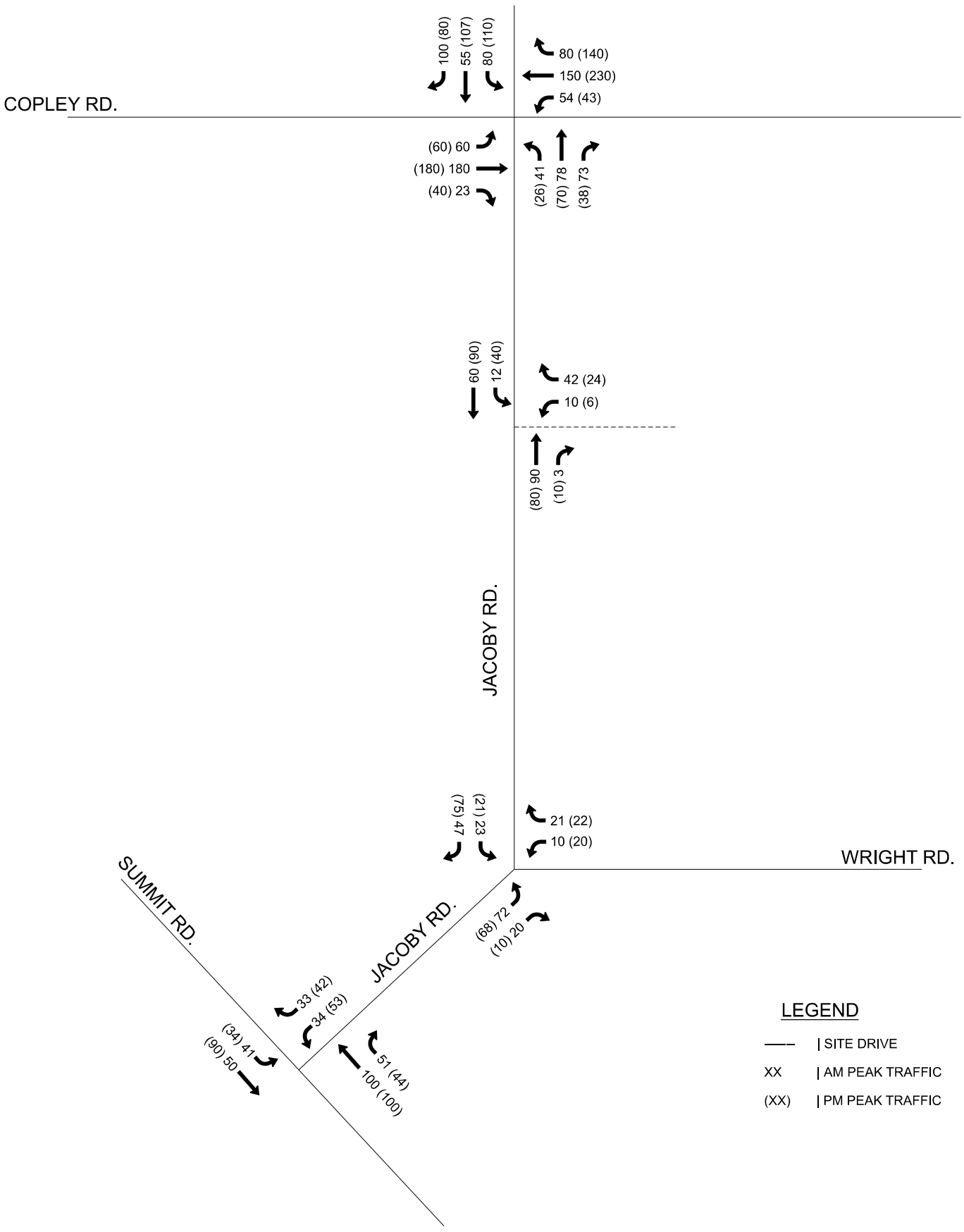
2022 OPENING YEAR - NO BUILD
JACOBY RD. APARTMENTS

PRIME AE®



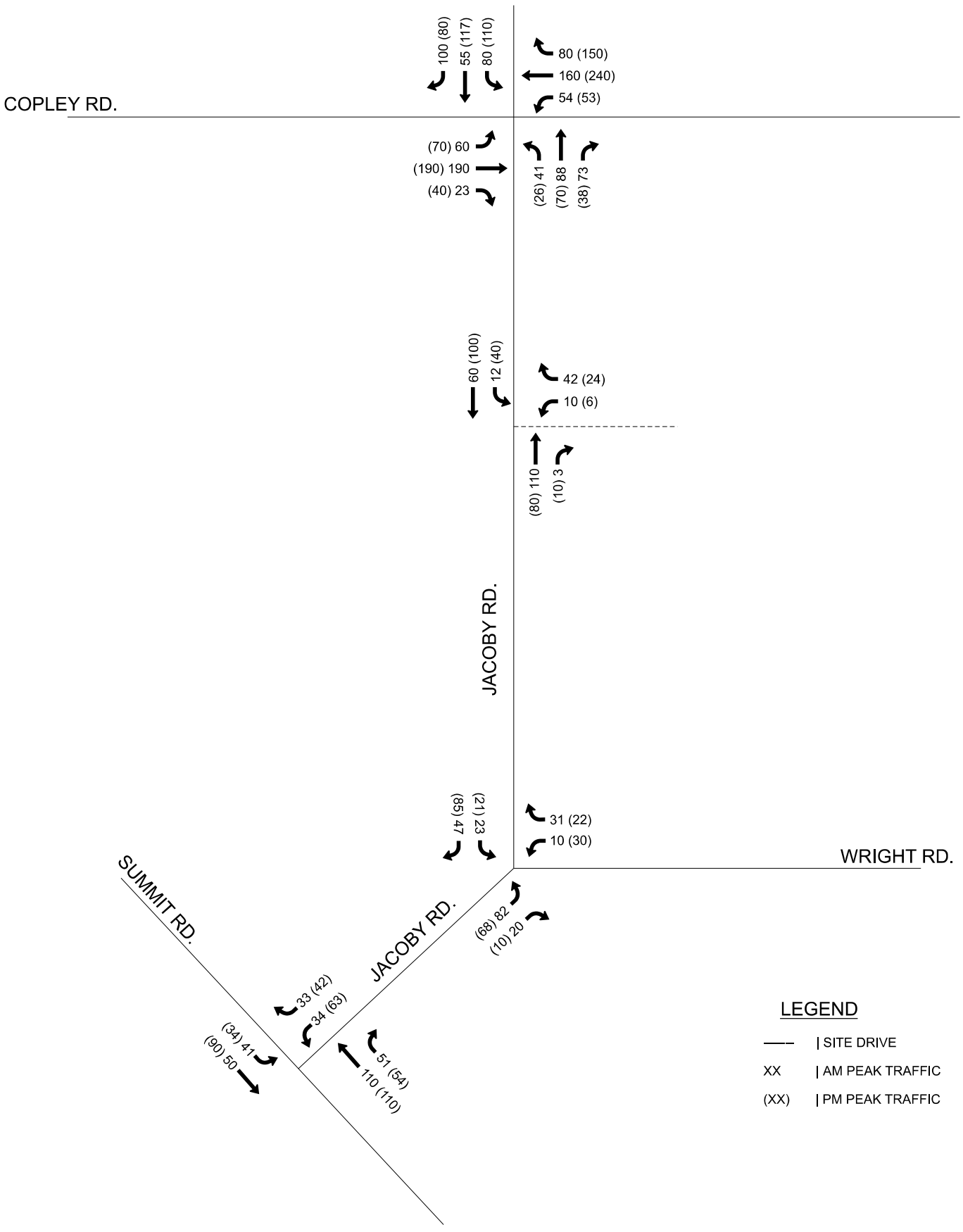
2042 HORIZON YEAR - NO BUILD
JACOBY RD. APARTMENTS

PRIME AE®



2022 OPENING YEAR - BUILD
JACOBY RD. APARTMENTS

PRIME AE®



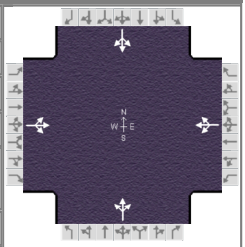
2042 HORIZON YEAR - BUILD
JACOBY RD. APARTMENTS

PRIME AE®

APPENDIX F
FUTURE CONDITIONS
CAPACITY ANALYSIS REPORTS

HCS7 Signalized Intersection Results Summary

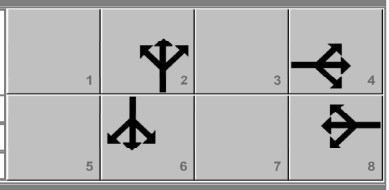
General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	AM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2022 Opening Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	2022 AM Opening Year No Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	60	180	20	50	150	80	30	60	60	80	50	100

Signal Information			
Cycle, s	44.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.9	20.0	0.0	0.0	0.0	0.0	
Yellow	4.1	4.5	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



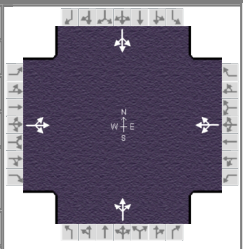
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.0		18.0
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.3		3.3
Queue Clearance Time (g_s), s		6.4		7.0		5.3		7.8
Green Extension Time (g_e), s		1.2		1.2		0.8		0.8
Phase Call Probability		1.00		1.00		0.99		0.99
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		283			304			163			250	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1706			1705			1689			1585	
Queue Service Time (g_s), s		0.0			0.0			0.0			2.5	
Cycle Queue Clearance Time (g_c), s		4.4			5.0			3.3			5.8	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		866			861			549			533	
Volume-to-Capacity Ratio (*X*)		0.326			0.353			0.297			0.469	
Back of Queue (*Q*), ft/ln (95 th percentile)		56.3			62.2			48.9			80	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.3			2.5			2.0			3.2	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.0			8.1			13.1			14.0	
Incremental Delay (d_2), s/veh		0.1			0.1			0.1			0.2	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.0			8.2			13.3			14.2	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.0	A		8.2	A		13.3	B		14.2	B	
Intersection Delay, s/veh / LOS	10.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.95	A	0.99	A	0.76	A	0.90	A

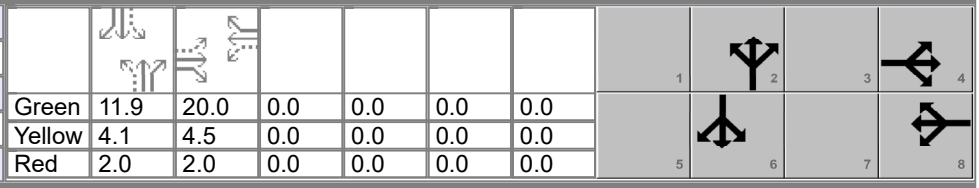
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	PM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2022 Opening Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	2022 PM Opening Year No Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	60	180	30	30	230	140	20	60	30	110	90	80

Signal Information			
Cycle, s	44.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	11.9	20.0	0.0	0.0	0.0	0.0						
Yellow	4.1	4.5	0.0	0.0	0.0	0.0						
Red	2.0	2.0	0.0	0.0	0.0	0.0						

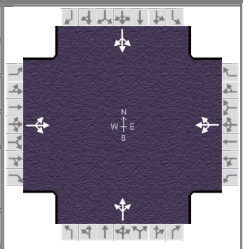
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.0		18.0
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g_s), s		6.6		9.9		4.3		9.5
Green Extension Time (g_e), s		1.6		1.6		0.8		0.8
Phase Call Probability		1.00		1.00		0.99		0.99
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		293			435			120			304	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1657			1751			1742			1595	
Queue Service Time (g_s), s		0.0			0.0			0.0			5.2	
Cycle Queue Clearance Time (g_c), s		4.6			7.9			2.3			7.5	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		843			873			563			540	
Volume-to-Capacity Ratio (*X*)		0.348			0.498			0.213			0.563	
Back of Queue (*Q*), ft/ln (95 th percentile)		59.3			98			34.9			102.4	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.4			3.9			1.4			4.1	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.0			8.9			12.8			14.6	
Incremental Delay (d_2), s/veh		0.1			0.2			0.1			0.3	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.1			9.1			12.8			14.9	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.1	A		9.1	A		12.8	B		14.9	B	
Intersection Delay, s/veh / LOS	10.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.97	A	1.20	A	0.68	A	0.99	A

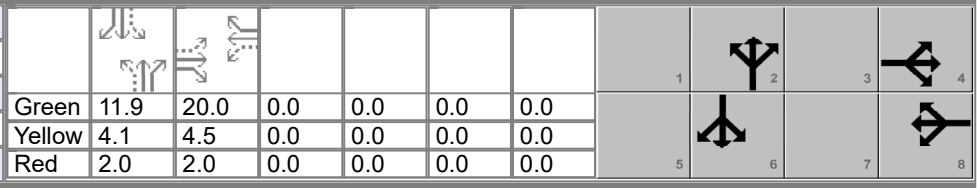
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	AM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2042 Horizon Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	2042 AM Horizon Year No Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	60	190	20	50	160	80	30	70	60	80	50	100

Signal Information			
Cycle, s	44.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	11.9	20.0	0.0	0.0	0.0	0.0						
Yellow	4.1	4.5	0.0	0.0	0.0	0.0						
Red	2.0	2.0	0.0	0.0	0.0	0.0						

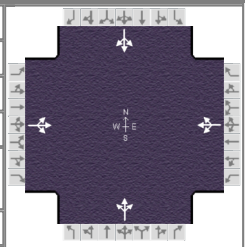
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.0		18.0
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.3		3.3
Queue Clearance Time (g_s), s		6.6		7.2		5.5		7.8
Green Extension Time (g_e), s		1.3		1.3		0.9		0.9
Phase Call Probability		1.00		1.00		0.99		0.99
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		293			315			174			250	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1712			1711			1700			1582	
Queue Service Time (g_s), s		0.0			0.0			0.0			2.3	
Cycle Queue Clearance Time (g_c), s		4.6			5.2			3.5			5.8	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		867			863			552			533	
Volume-to-Capacity Ratio (*X*)		0.338			0.365			0.315			0.469	
Back of Queue (*Q*), ft/ln (95 th percentile)		58.9			64.9			52.6			80	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.4			2.6			2.1			3.2	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.0			8.2			13.2			14.0	
Incremental Delay (d_2), s/veh		0.1			0.1			0.1			0.2	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.1			8.3			13.3			14.2	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.1	A		8.3	A		13.3	B		14.2	B	
Intersection Delay, s/veh / LOS	10.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.97	A	1.01	A	0.77	A	0.90	A

HCS7 Signalized Intersection Results Summary

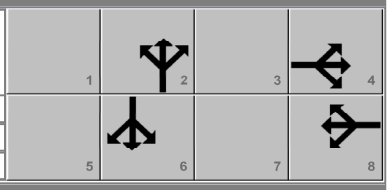
General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	PM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2042 Horizon Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	2042 PM Horizon Year No Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	70	190	30	40	240	150	20	60	30	110	100	80

Signal Information			
Cycle, s	44.5	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	11.9	20.0	0.0	0.0	0.0	0.0	
Yellow	4.1	4.5	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



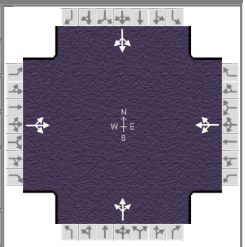
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.0		18.0
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.3		3.3		3.2		3.2
Queue Clearance Time (g_s), s		7.0		10.7		4.3		9.8
Green Extension Time (g_e), s		1.8		1.8		0.9		0.8
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		315			467			120			315	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1628			1736			1742			1604	
Queue Service Time (g_s), s		0.0			0.0			0.0			5.5	
Cycle Queue Clearance Time (g_c), s		5.0			8.7			2.3			7.8	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		831			868			563			542	
Volume-to-Capacity Ratio (*X*)		0.379			0.538			0.212			0.582	
Back of Queue (*Q*), ft/ln (95 th percentile)		64.5			107.9			34.9			106.9	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.6			4.3			1.4			4.3	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.1			9.2			12.8			14.7	
Incremental Delay (d_2), s/veh		0.1			0.2			0.1			0.4	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.2			9.4			12.8			15.1	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.2		A	9.4		A	12.8		B	15.1		B
Intersection Delay, s/veh / LOS	10.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	1.01	A	1.26	A	0.68	A	1.01	A

HCS7 Signalized Intersection Results Summary

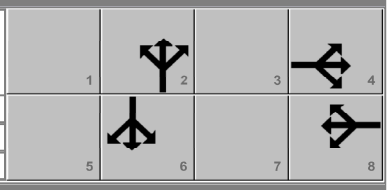
General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	AM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2022 Opening Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	x2022 AM Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	60	180	23	54	150	80	41	78	73	80	55	100

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.0	20.0	0.0	0.0	0.0	0.0	
Yellow	4.1	4.5	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



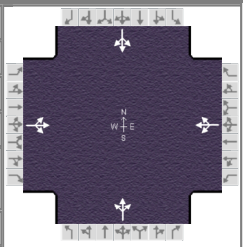
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.1		18.1
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.3		3.3
Queue Clearance Time (g_s), s		6.4		7.1		6.3		7.9
Green Extension Time (g_e), s		1.2		1.2		1.0		1.0
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		286			309			209			255	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1706			1696			1683			1584	
Queue Service Time (g_s), s		0.0			0.0			0.0			1.6	
Cycle Queue Clearance Time (g_c), s		4.4			5.1			4.3			5.9	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		865			857			550			533	
Volume-to-Capacity Ratio (*X*)		0.331			0.360			0.380			0.479	
Back of Queue (*Q*), ft/ln (95 th percentile)		57.4			63.1			64.5			82.1	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.3			2.5			2.6			3.3	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.0			8.2			13.5			14.0	
Incremental Delay (d_2), s/veh		0.1			0.1			0.2			0.2	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.1			8.3			13.7			14.3	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.1	A		8.3	A		13.7	B		14.3	B	
Intersection Delay, s/veh / LOS	10.7						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.96	A	1.00	A	0.83	A	0.91	A

HCS7 Signalized Intersection Results Summary

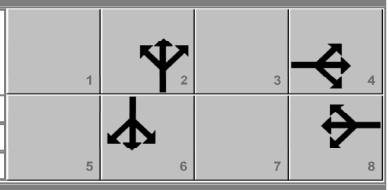
General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	PM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2022 Opening Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	x2022 PM Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	60	180	40	43	230	140	26	70	38	110	107	80

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.0	20.0	0.0	0.0	0.0	0.0	
Yellow	4.1	4.5	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



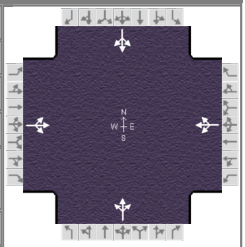
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.1		18.1
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.2		3.2
Queue Clearance Time (g_s), s		6.8		10.2		4.9		10.1
Green Extension Time (g_e), s		1.7		1.7		1.0		0.9
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		304			449			146			323	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1659			1732			1730			1603	
Queue Service Time (g_s), s		0.0			0.0			0.0			5.2	
Cycle Queue Clearance Time (g_c), s		4.8			8.2			2.9			8.1	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		843			866			561			541	
Volume-to-Capacity Ratio (*X*)		0.361			0.518			0.260			0.597	
Back of Queue (*Q*), ft/ln (95 th percentile)		61.9			101.8			43.1			110	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.5			4.1			1.7			4.4	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.1			9.0			13.0			14.8	
Incremental Delay (d_2), s/veh		0.1			0.2			0.1			0.4	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.2			9.2			13.1			15.2	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.2		A	9.2		A	13.1		B	15.2		B
Intersection Delay, s/veh / LOS	11.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.99	A	1.23	A	0.73	A	1.02	A

HCS7 Signalized Intersection Results Summary

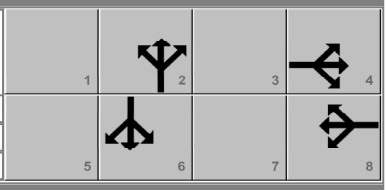
General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	AM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2042 Horizon Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	x2042 AM Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	60	190	23	54	160	80	41	88	73	80	55	100

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	12.0	20.0	0.0	0.0	0.0	0.0	
Yellow	4.1	4.5	0.0	0.0	0.0	0.0	
Red	2.0	2.0	0.0	0.0	0.0	0.0	



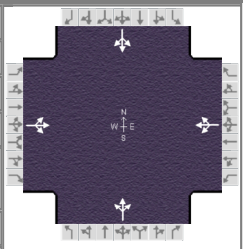
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.1		18.1
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.2		3.2		3.3		3.3
Queue Clearance Time (g_s), s		6.6		7.3		6.6		7.9
Green Extension Time (g_e), s		1.3		1.3		1.0		1.0
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		297			320			220			255	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1711			1701			1693			1581	
Queue Service Time (g_s), s		0.0			0.0			0.0			1.4	
Cycle Queue Clearance Time (g_c), s		4.6			5.3			4.6			5.9	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		866			859			552			533	
Volume-to-Capacity Ratio (*X*)		0.342			0.372			0.398			0.479	
Back of Queue (*Q*), ft/ln (95 th percentile)		59.9			65.8			68.4			82.1	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.4			2.6			2.7			3.3	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.0			8.2			13.6			14.0	
Incremental Delay (d_2), s/veh		0.1			0.1			0.2			0.2	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.1			8.3			13.8			14.3	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.1	A		8.3	A		13.8	B		14.3	B	
Intersection Delay, s/veh / LOS	10.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	0.98	A	1.01	A	0.85	A	0.91	A

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Prime AE			Duration, h	0.250
Analyst	Shawn Monahan	Analysis Date	Sep 29, 2021	Area Type	Other
Jurisdiction	Copley Township	Time Period	PM Peak	PHF	0.92
Urban Street	Jacoby Rd	Analysis Year	2042 Horizon Year	Analysis Period	1> 7:00
Intersection	Copley Rd	File Name	x2042 PM Build.xus		
Project Description	Jacoby Rd. Apartments				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	70	190	40	53	240	150	26	70	38	110	117	80

Signal Information			
Cycle, s	44.6	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

								1	2	3	4	
Green	12.0	20.0	0.0	0.0	0.0	0.0						
Yellow	4.1	4.5	0.0	0.0	0.0	0.0		5	6	7	8	
Red	2.0	2.0	0.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		8.0		8.0		8.0		8.0
Phase Duration, s		26.5		26.5		18.1		18.1
Change Period, ($Y+R_c$), s		6.5		6.5		6.1		6.1
Max Allow Headway (*MAH*), s		3.3		3.3		3.2		3.2
Queue Clearance Time (g_s), s		7.2		11.1		4.9		10.4
Green Extension Time (g_e), s		1.9		1.8		1.0		0.9
Phase Call Probability		1.00		1.00		1.00		1.00
Max Out Probability		0.00		0.00		0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		326			482			146			334	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1632			1717			1729			1611	
Queue Service Time (g_s), s		0.0			1.2			0.0			5.5	
Cycle Queue Clearance Time (g_c), s		5.2			9.1			2.9			8.4	
Green Ratio (*g/C*)		0.45			0.45			0.27			0.27	
Capacity (*c*), veh/h		832			861			561			542	
Volume-to-Capacity Ratio (*X*)		0.392			0.559			0.260			0.615	
Back of Queue (*Q*), ft/ln (95 th percentile)		67.2			112.4			43.1			114.7	
Back of Queue (*Q*), veh/ln (95 th percentile)		2.7			4.5			1.7			4.6	
Queue Storage Ratio (*RQ*) (95 th percentile)		0.00			0.00			0.00			0.00	
Uniform Delay (d_1), s/veh		8.2			9.3			13.0			14.9	
Incremental Delay (d_2), s/veh		0.1			0.2			0.1			0.4	
Initial Queue Delay (d_3), s/veh		0.0			0.0			0.0			0.0	
Control Delay (*d*), s/veh		8.3			9.5			13.1			15.3	
Level of Service (LOS)		A			A			B			B	
Approach Delay, s/veh / LOS	8.3	A		9.5	A		13.1	B		15.3	B	
Intersection Delay, s/veh / LOS	11.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.65	B	1.65	B	1.67	B	1.67	B
Bicycle LOS Score / LOS	1.03	A	1.28	A	0.73	A	1.04	A

HCS7 Two-Way Stop-Control Report

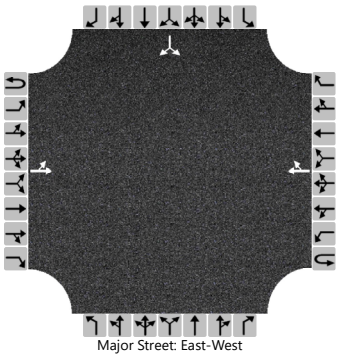
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2022
Time Analyzed	AM Peak - No Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		40	50				100	50						30		30
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		43													65	
Capacity, c (veh/h)		1410													784	
v/c Ratio		0.03													0.08	
95% Queue Length, Q_{95} (veh)		0.1													0.3	
Control Delay (s/veh)		7.6													10.0	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		3.5												10.0		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

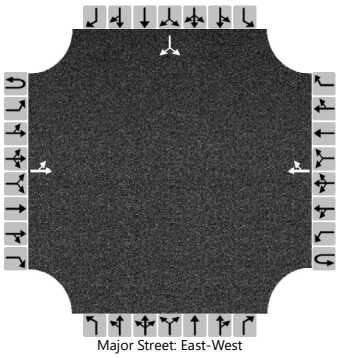
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2022
Time Analyzed	PM Peak - No Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		30	90				100	40						50		40
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33													98	
Capacity, c (veh/h)		1422													767	
v/c Ratio		0.02													0.13	
95% Queue Length, Q_{95} (veh)		0.1													0.4	
Control Delay (s/veh)		7.6													10.4	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		2.0												10.4		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

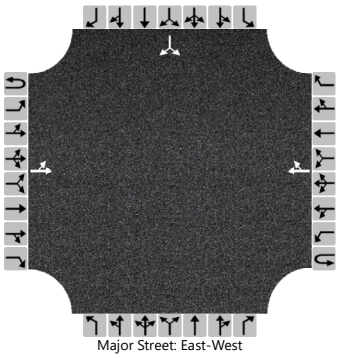
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2042
Time Analyzed	AM Peak - No Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		40	50				110	50						30		30
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		43													65	
Capacity, c (veh/h)		1397													772	
v/c Ratio		0.03													0.08	
95% Queue Length, Q_{95} (veh)		0.1													0.3	
Control Delay (s/veh)		7.7													10.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		3.5												10.1		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

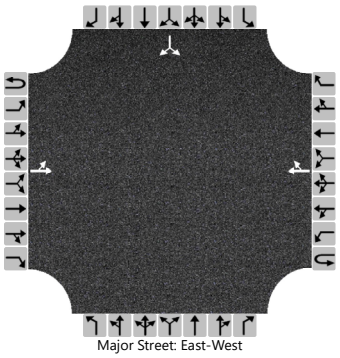
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2042
Time Analyzed	PM Peak - No Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		30	90				110	50						60		40
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		33													109	
Capacity, c (veh/h)		1397													741	
v/c Ratio		0.02													0.15	
95% Queue Length, Q_{95} (veh)		0.1													0.5	
Control Delay (s/veh)		7.6													10.7	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		2.1												10.7		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

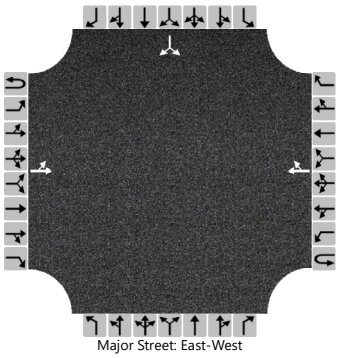
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2022
Time Analyzed	AM Peak - Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		41	50				100	51						34		33
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45													73	
Capacity, c (veh/h)		1408													780	
v/c Ratio		0.03													0.09	
95% Queue Length, Q_{95} (veh)		0.1													0.3	
Control Delay (s/veh)		7.6													10.1	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		3.6												10.1		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

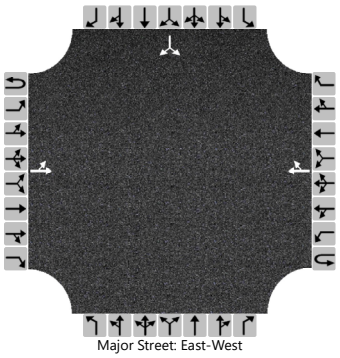
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2022
Time Analyzed	PM Peak - Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		34	90				100	44						53		42
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		37													103	
Capacity, c (veh/h)		1417													757	
v/c Ratio		0.03													0.14	
95% Queue Length, Q_{95} (veh)		0.1													0.5	
Control Delay (s/veh)		7.6													10.5	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		2.2												10.5		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

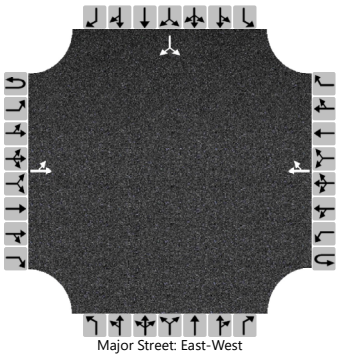
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2042
Time Analyzed	AM Peak - Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		41	50				110	51						34		33
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		45													73	
Capacity, c (veh/h)		1395													769	
v/c Ratio		0.03													0.09	
95% Queue Length, Q_{95} (veh)		0.1													0.3	
Control Delay (s/veh)		7.7													10.2	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		3.6												10.2		
Approach LOS														B		

HCS7 Two-Way Stop-Control Report

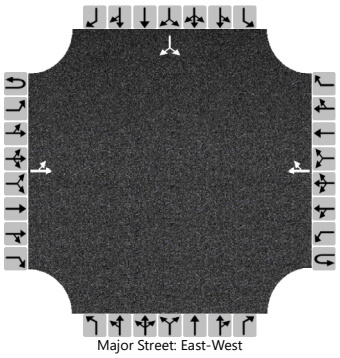
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2042
Time Analyzed	PM Peak - Build
Intersection Orientation	East-West
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Summit Rd
Jurisdiction	Copley Township
East/West Street	Summit Rd
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		34	90				110	54						63		42
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

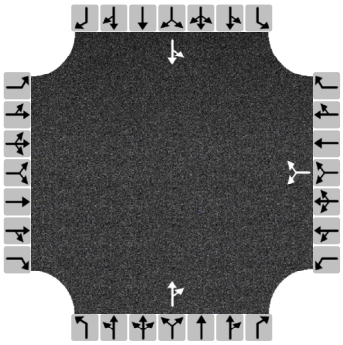
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		37													114	
Capacity, c (veh/h)		1392													731	
v/c Ratio		0.03													0.16	
95% Queue Length, Q_{95} (veh)		0.1													0.6	
Control Delay (s/veh)		7.7													10.8	
Level of Service (LOS)		A													B	
Approach Delay (s/veh)		2.3												10.8		
Approach LOS														B		

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2022	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Peak - No Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				10		20		70	20	20	40	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				33			98			65		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.029			0.087			0.058		
Final Departure Headway, hd (s)				3.94			3.93			4.16		
Final Degree of Utilization, x				0.036			0.107			0.075		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				1.94			1.93			2.16		

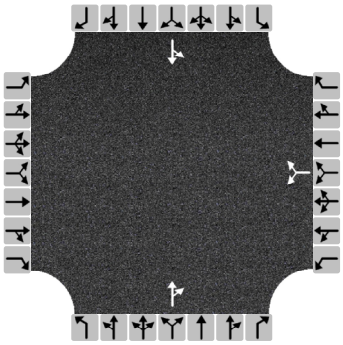
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				33			98			65		
Capacity				913			915			866		
95% Queue Length, Q_{95} (veh)				0.1			0.4			0.2		
Control Delay (s/veh)				7.1			7.4			7.5		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.1			7.4			7.5		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.4						A					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2022	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM Peak - No Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				20		20		60	10	20	70	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				43			76			98		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.039			0.068			0.087		
Final Departure Headway, hd (s)				4.10			4.04			4.15		
Final Degree of Utilization, x				0.050			0.085			0.113		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				2.10			2.04			2.15		

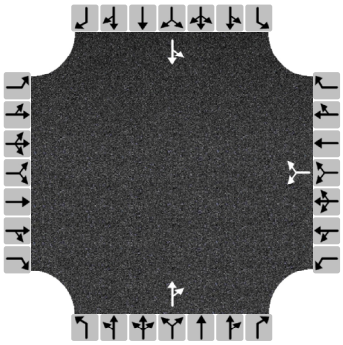
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				43			76			98		
Capacity				877			891			868		
95% Queue Length, Q_{95} (veh)				0.2			0.3			0.4		
Control Delay (s/veh)				7.3			7.4			7.7		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.3			7.4			7.7		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.5						A					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2042	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Peak - No Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				10		30		80	20	20	40	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				43			109			65		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.039			0.097			0.058		
Final Departure Headway, hd (s)				3.90			3.97			4.19		
Final Degree of Utilization, x				0.047			0.120			0.076		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				1.90			1.97			2.19		

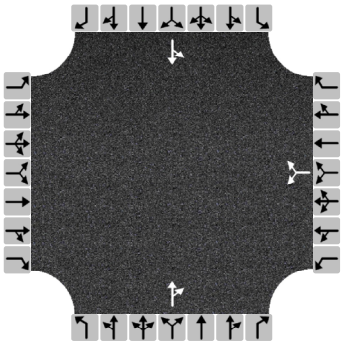
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				43			109			65		
Capacity				923			907			859		
95% Queue Length, Q_{95} (veh)				0.1			0.4			0.2		
Control Delay (s/veh)				7.1			7.5			7.5		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.1			7.5			7.5		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.4						A					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2042	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM Peak - No Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				30		20		60	10	20	80	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				54			76			109		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.048			0.068			0.097		
Final Departure Headway, hd (s)				4.21			4.08			4.17		
Final Degree of Utilization, x				0.064			0.086			0.126		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				2.21			2.08			2.17		

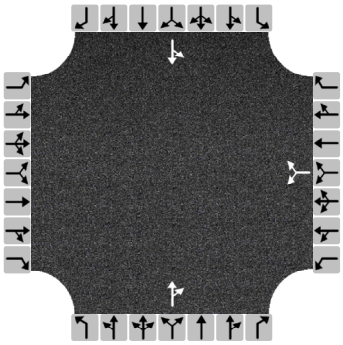
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				54			76			109		
Capacity				855			883			864		
95% Queue Length, Q_{95} (veh)				0.2			0.3			0.4		
Control Delay (s/veh)				7.5			7.5			7.8		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.5			7.5			7.8		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.6						A					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2022	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Peak - Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				10		21		72	20	23	47	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				34			100			76		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.030			0.089			0.068		
Final Departure Headway, hd (s)				3.96			3.95			4.16		
Final Degree of Utilization, x				0.037			0.110			0.088		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				1.96			1.95			2.16		

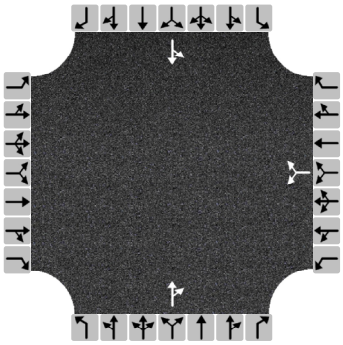
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				34			100			76		
Capacity				909			912			865		
95% Queue Length, Q_{95} (veh)				0.1			0.4			0.3		
Control Delay (s/veh)				7.1			7.4			7.6		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.1			7.4			7.6		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.4						A					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2022	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	PM Peak - Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				20		22		68	10	21	75	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				46			85			104		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.041			0.075			0.093		
Final Departure Headway, hd (s)				4.12			4.06			4.16		
Final Degree of Utilization, x				0.052			0.096			0.121		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				2.12			2.06			2.16		

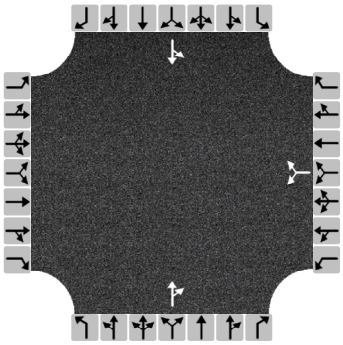
Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				46			85			104		
Capacity				874			887			866		
95% Queue Length, Q_{95} (veh)				0.2			0.3			0.4		
Control Delay (s/veh)				7.3			7.5			7.7		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.3			7.5			7.7		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.6						A					

HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	Shawn Monahan	Intersection	Jacoby Rd & Wright Rd
Agency/Co.	Prime AE	Jurisdiction	Copley Township
Date Performed	9/28/2021	East/West Street	Wright Rd.
Analysis Year	2042	North/South Street	Jacoby Rd.
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	AM Peak - Build		
Project Description	Jacoby Rd. Apartments		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				10		31		82	20	23	47	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				45			111			76		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.040			0.099			0.068		
Final Departure Headway, hd (s)				3.92			3.98			4.20		
Final Degree of Utilization, x				0.049			0.123			0.089		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				1.92			1.98			2.20		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				45			111			76		
Capacity				917			904			858		
95% Queue Length, Q_{95} (veh)				0.2			0.4			0.3		
Control Delay (s/veh)				7.1			7.5			7.6		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.1			7.5			7.6		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.5						A					

HCS7 All-Way Stop Control Report

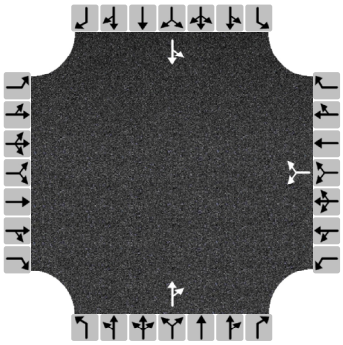
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/28/2021
Analysis Year	2042
Analysis Time Period (hrs)	0.25
Time Analyzed	PM Peak - Build
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Wright Rd
Jurisdiction	Copley Township
East/West Street	Wright Rd.
North/South Street	Jacoby Rd.
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume				30		22		68	10	21	85	
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration				LR			TR			LT		
Flow Rate, v (veh/h)				57			85			115		
Percent Heavy Vehicles				2			2			2		

Departure Headway and Service Time

Initial Departure Headway, hd (s)				3.20			3.20			3.20		
Initial Degree of Utilization, x				0.050			0.075			0.102		
Final Departure Headway, hd (s)				4.22			4.10			4.18		
Final Degree of Utilization, x				0.066			0.096			0.134		
Move-Up Time, m (s)				2.0			2.0			2.0		
Service Time, ts (s)				2.22			2.10			2.18		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)				57			85			115		
Capacity				852			879			861		
95% Queue Length, Q_{95} (veh)				0.2			0.3			0.5		
Control Delay (s/veh)				7.5			7.5			7.8		
Level of Service, LOS				A			A			A		
Approach Delay (s/veh)				7.5			7.5			7.8		
Approach LOS				A			A			A		
Intersection Delay, s/veh | LOS	7.7						A					

HCS7 Two-Way Stop-Control Report

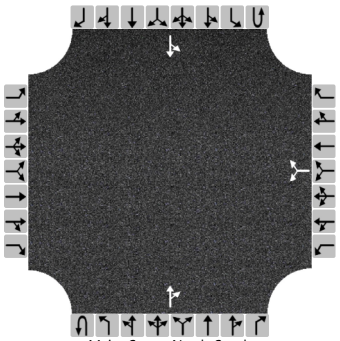
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/30/2021
Analysis Year	2022
Time Analyzed	AM Peak - Build
Intersection Orientation	North-South
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Site Dr
Jurisdiction	Copley Township
East/West Street	Site Dr
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						10		42			90	3		12	60	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							57							13		
Capacity, c (veh/h)							917							1485		
v/c Ratio							0.06							0.01		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
Control Delay (s/veh)							9.2							7.4		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.2								1.3		
Approach LOS						A										

HCS7 Two-Way Stop-Control Report

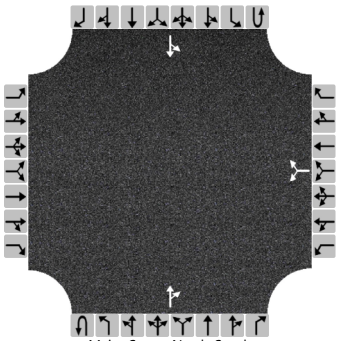
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/30/2021
Analysis Year	2022
Time Analyzed	PM Peak - Build
Intersection Orientation	North-South
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Site Dr
Jurisdiction	Copley Township
East/West Street	Site Dr
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						6		24			80	10		40	90	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							33							43		
Capacity, c (veh/h)							891							1489		
v/c Ratio							0.04							0.03		
95% Queue Length, Q_{95} (veh)							0.1							0.1		
Control Delay (s/veh)							9.2							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.2								2.5			
Approach LOS					A											

HCS7 Two-Way Stop-Control Report

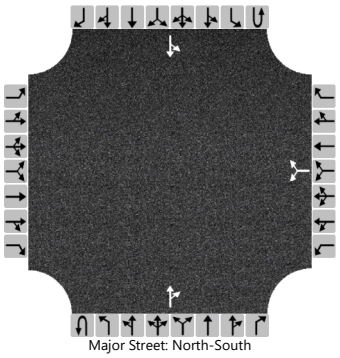
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/30/2021
Analysis Year	2042
Time Analyzed	AM Peak - Build
Intersection Orientation	North-South
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Site Dr
Jurisdiction	Copley Township
East/West Street	Site Dr
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						10		42			110	3		12	60	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							57							13		
Capacity, c (veh/h)							891							1458		
v/c Ratio							0.06							0.01		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
Control Delay (s/veh)							9.3							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)					9.3								1.3			
Approach LOS					A											

HCS7 Two-Way Stop-Control Report

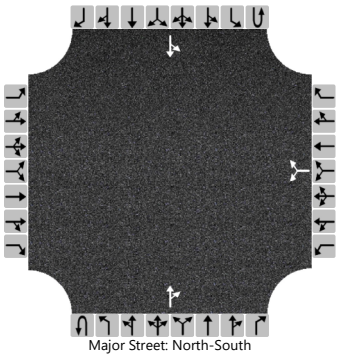
General Information

Analyst	Shawn Monahan
Agency/Co.	Prime AE
Date Performed	9/30/2021
Analysis Year	2042
Time Analyzed	PM Peak - Build
Intersection Orientation	North-South
Project Description	Jacoby Rd. Apartments

Site Information

Intersection	Jacoby Rd & Site Dr
Jurisdiction	Copley Township
East/West Street	Site Dr
North/South Street	Jacoby Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						6		24			80	10		40	100	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							33							43		
Capacity, c (veh/h)							888							1489		
v/c Ratio							0.04							0.03		
95% Queue Length, Q_{95} (veh)							0.1							0.1		
Control Delay (s/veh)							9.2							7.5		
Level of Service (LOS)							A							A		
Approach Delay (s/veh)						9.2								2.3		
Approach LOS						A										

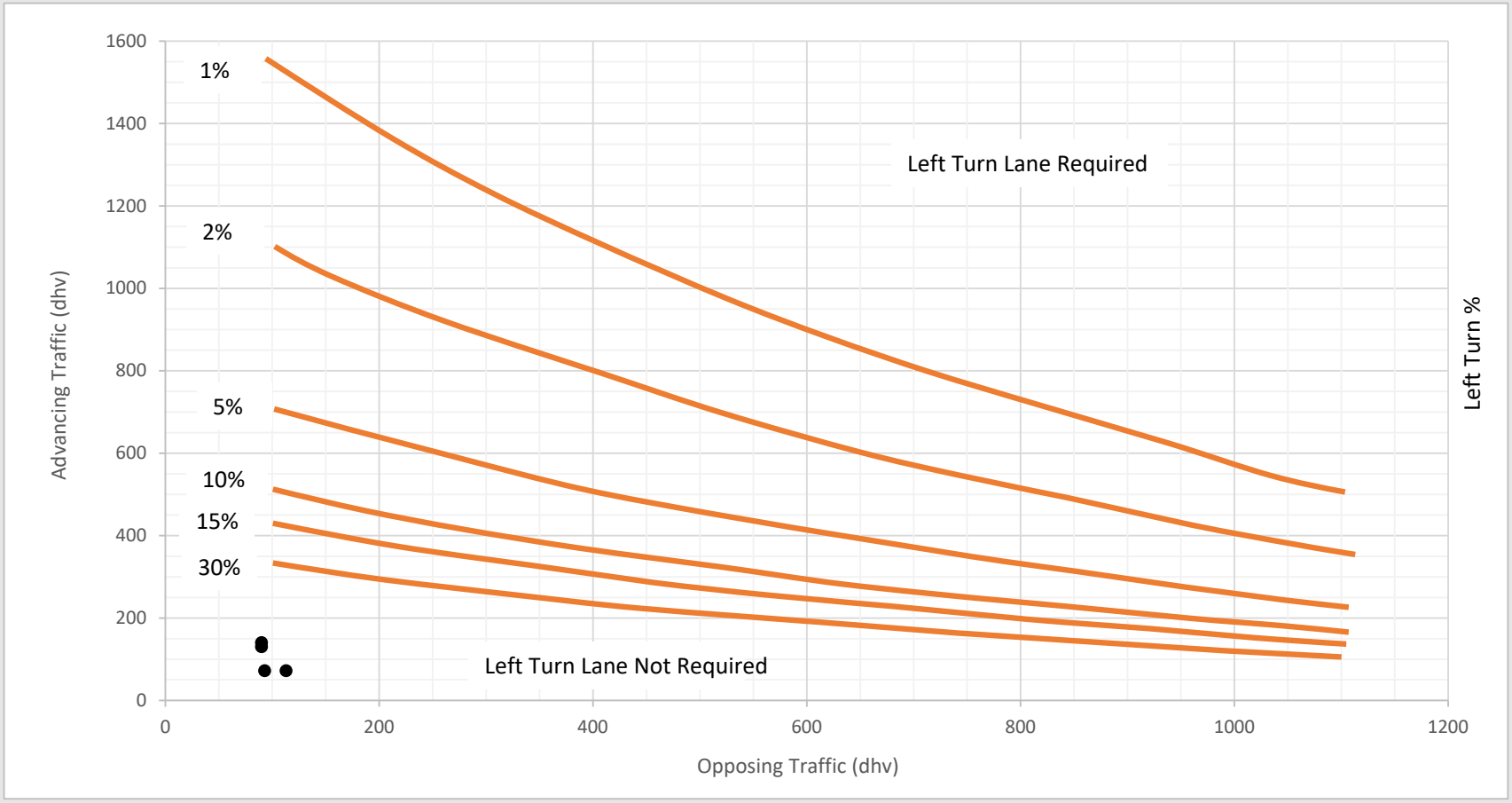
APPENDIX G
TURN LANE WARRANT
ANALYSIS CHARTS

2-Lane Highway Left Turn Lane Warrant (=<40 mph Posted Speed)

ODOT L&D Vol. 1 - Fig. 401-5a

Jacoby Rd & Site Dr - Southbound

Design Period	AM Peak				PM Peak	
	2022	2042			2022	2042
Advancing Traffic (dhv) [Includes Left Turns]	72	72			130	140
Opposing Traffic (dhv)	93	113			90	90
Left Turn %	17%	17%			31%	29%



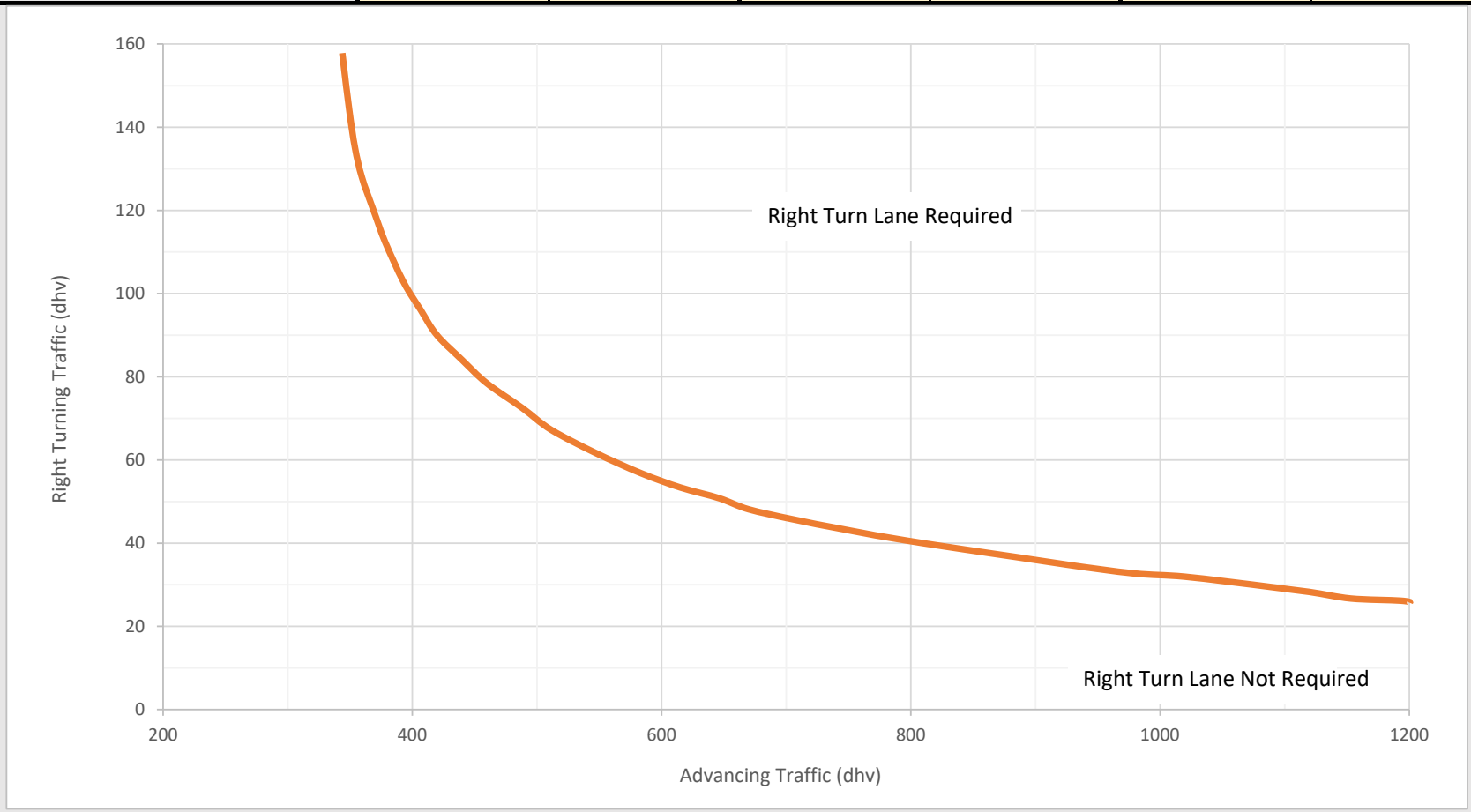
Warrant Satisfied?	NO	NO	-	-	NO	NO

2-Lane Highway Right Turn Lane Warrant (=<40 mph Posted Speed)

ODOT L&D Vol. 1 - Fig. 401-6a

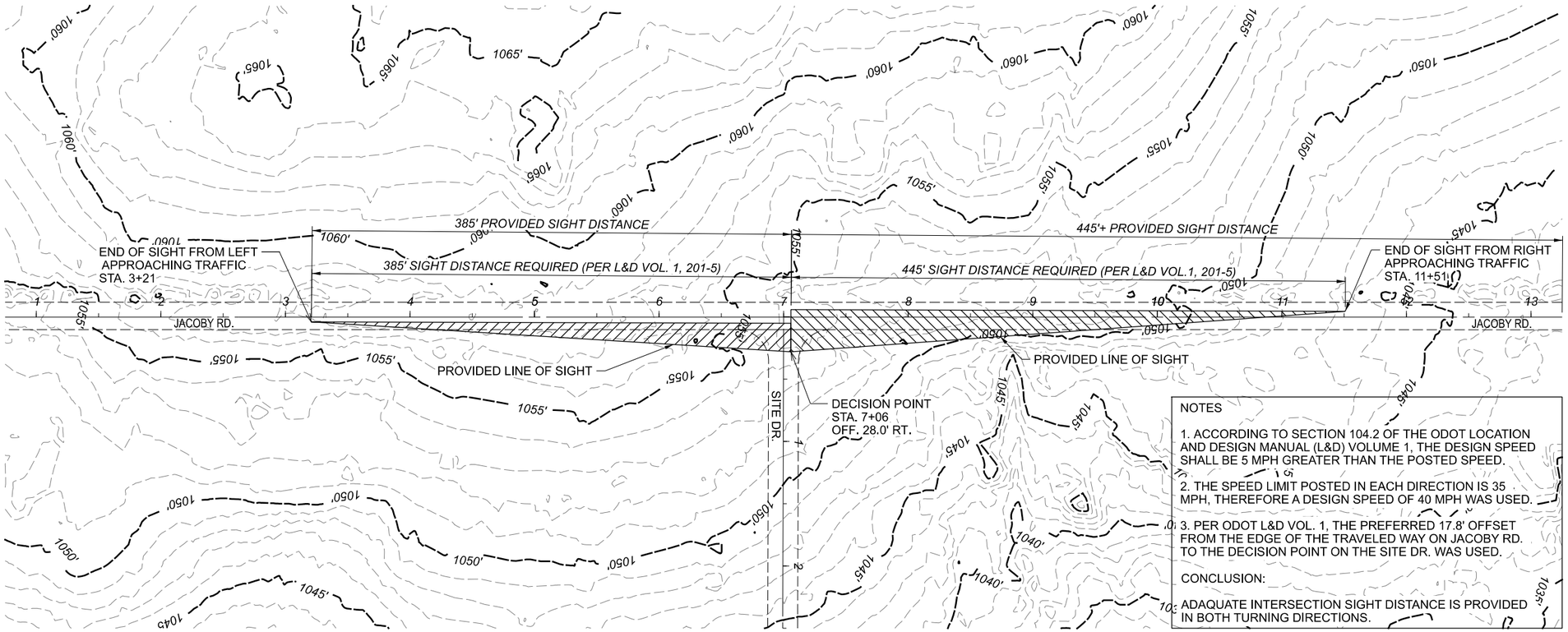
Jacoby Rd & Site Dr. - Northbound

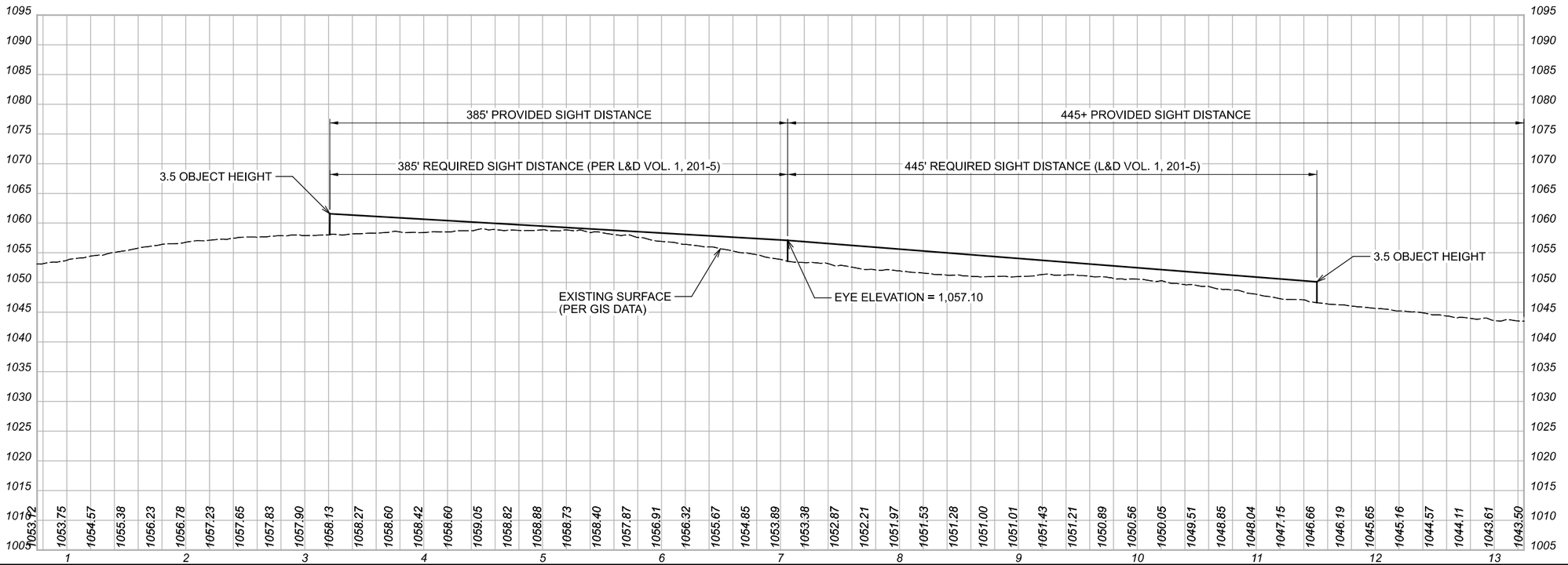
Design Period	AM Peak				PM Peak	
	2022	2042			2022	2042
Right Turning Traffic (dhv)	3	3			10	10
Advancing Traffic (dhv) [Includes Right Turns]	93	113			90	90



Warrant Satisfied?	NO	NO	-	-	NO	NO

APPENDIX H
INTERSECTION SIGHT DISTANCE DIAGRAM





HORIZONTAL SCALE IN FEET
0 25 50 100

JACOBY RD. & SITE DR. - PLAN AND PROFILE INTERSECTION SIGHT DISTANCE

JACOBY RD. SIGHT DISTANCE DIAGRAM

MODEL: CLX_1- Plan 1_Jacoby [Sheet1] PAPERSIZE: 17x11(in.) DATE: 10/8/2021 TIME: 12:58:32 PM USER: bmorgan
O:\Eric Smith_Production\Private\Pride One\Jacoby Road\CAD\Sight Distance\Jacoby Rd_Sight Distance Diagram.dgn

DESIGN AGENCY
PRIME AE